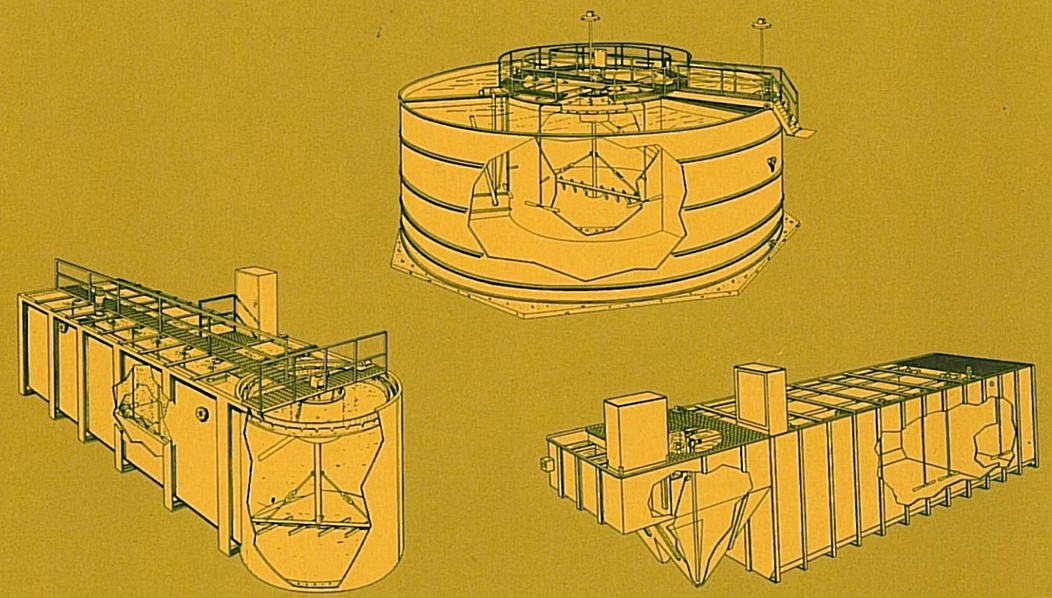
CONTACT STABILIZATION PLANTS



OPERATIONS MANUAL

CAN ★ TEX®
INDUSTRIES
A DIVISION OF Harsco CORPORATION

OPERATING INSTRUCTIONS
Contact Stabilization Plants

CAN ★ TEX®
INDUSTRIES

A DIVISION OF Harsco CORPORATION

PROCESS EQUIPMENT DIVISION

P.O. BOX 340, MINERAL WELLS, TEXAS 76067

MAINTENANCE AND TESTING CHECK LIST

TABLE OF CONTENTS

START-UP CHECK LIST

☑

1. All items completed as detailed in installation instructions and all mechanical equipment securely installed and serviced. ☐
2. Be sure all field welds, scratches and connecting pipes have been coated with paint supplied for this purpose. ☐
3. Check tank interior for trash and debris that might effect the operation. ☐
4. Check the blower(s) to make sure that belts and drives are free of obstructions. ☐
5. Before applying the power to the unit, be sure all circuit breakers, HOA switches, etc., both inside and outside the control panel are turned "OFF". ☐
6. Turn "ON" the main line disconnect switch at the power pole. ☐
7. Turn "ON" blower circuit breakers. ☐
8. Turn "ON" blower switch (turn to "H" if Hand-Off-On is supplied) just long enough to check correct rotation of motor and blower. If rotation is wrong, turn circuit breaker "OFF" and: ☐
   (a) If single phase motor — the motor name-plate gives the wiring diagram of the motor conduit box forward and reverse connections. Changes must be made in the motor conduit box.
   (b) If three phase motor — switch L_1 and L_2 leads at the main disconnect switch on the power pole or at the magnetic starter for the particular motor.
   DO NOT CHANGE L_3, the high leg (blue wire).
   Recheck rotation as outlined above.
9. If other electrical equipment is used, such as a comminutor, froth control pump, or chlorinator, be sure and check for proper rotation. ☐
10. Check air lines for the following: ☐
    (a) Air relief valve free to operate.
    (b) Diffuser drop pipes in vertical position with couplings tight.
    (c) Valves open.
11. Open all valves and slide gates between compartments before filling. ☐
12. Level diffusers and fill tank in accordance with operation instructions. ☐
13. As water begins to overflow the clarifier weir, check to see that the weir is level throughout its entire length. Adjust level if necessary. ☐
14. Turn "ON" the blower(s) and observe the aeration tank for even distribution of air. An obvious difference in the distribution of air along the length of the tank is an indication that individual drop pipe valves are not fully open. ☐
15. Air lift sludge pumps are adjusted by opening or closing the plug valve to each pump. The rate of flow is determined by the amount of air fed to the pump. Adjust airlifts in accordance with operation instructions. ☐
16. Plants having airlift scum pumps are adjusted in the same manner as the airlift sludge pumps. After the "V" notch weir has been leveled, care should be taken to adjust the height of the scum pump inlet. The overflow to the inlet should be barely sufficient to maintain water for the pump. A flooded inlet will not remove the scum. Height adjustments are made by loosening the collar below the inlet, which will permit the inlet to be raised or lowered. ☐

Total Suspended Solids (TSS)

1. Number a piece of fiberglass filter paper (Millipore #AT-20-047-00) at the edge with a ballpoint pen for each sample to be run. Mark one extra paper with the letter "B" for the blank. Record the numbers representing each sample as shown in step 7.
2. Weigh each of the papers to the nearest 0.1 mg and record this weight as shown in step 7.
3. Place one filter paper in the Millipore apparatus (Millipore #XX-10-047-30) with the identification mark up and locate so as to seal the paper all the way around.
4. Mix the sample to be run and measure 100 ml using a 100 ml graduated cylinder (when running sludge solids use 10 ml samples) and place this sample into the Millipore funnel. Place a vacuum on the filter flask. Rinse the graduate used to measure the sample with distilled water and add this rinse to the funnel. When all of the sample and distilled water has passed through the filter, rinse the sides of the funnel with distilled water and allow this rinse to pass through the paper. When filtering the lowest solid sample [i.e. filter effluent], place the filter paper marked "B" under the paper to be used. The paper "B" will then be treated as any other sample and used in the calculation of TSS.
5. After the last rinse has passed through the filter paper, remove the paper from the Millipore apparatus. Place each paper in the drying oven at 104°C and dry for 30 minutes or longer.
6. After the drying time has elapsed, allow the filter papers to cool for 10 minutes in the dessicator and weigh to the nearest 0.1 mg. Record the value as shown in step 7.
7. When all of the weights are recorded, calculate the TSS for each sample using the following formula: TSS = 10,000* [(Final wt. - Initial wt.) + ("B" change**)]

Sample Solids Record Form

No.	Sample	Initial wt.	Final wt.	Difference	Corrected TSS
1	Raw Sewage	0.1109 g	0.1302 g	193	194
2	Secondary Effluent	0.1205 g	0.1233 g	29	29
3	Filter Effluent	0.1195 g	0.1199 g	4	5
B	-	0.1101 g	0.1100 g	-1	

*When calculating sludge solids where 10 ml samples were used multiply by 100,000 instead of 10,000.

**To calculate "B" in weight, simply subtract "B" initial weight from "B" final weight and then change its sign.

pH Measurement

Measurement of pH should be made using the instructions provided with electronic pH meter. A buffer solution of 7.0 pH is suitable for standardizing the meter when working with normal domestic waste. Measurements should be reported to one decimal place.

Note: Standard Methods, 13th Edition recognizes only the electronic pH meter method and most agencies requiring pH measurements will expect this method.

If accuracy is not critical and/or values are not being reported to regulating agencies, pH paper or a color comparator may be used to measure pH. Indicators and color standards are available for pH measurements with the Wallace and Tiernan color comparator purchased for the chlorine residual test. Instructions are supplied with the comparator and should be carefully followed.

Chlorine Residual

1. Prepare the following Reagents as indicated:
   a. **Orthotolidine reagent** — dissolve 1.35 g orthotolidine dihydrochloride in 500 ml distilled water. Add this solution, with constant stirring, to a mixture of 350 ml distilled water and 150 ml conc. HCl.
   b. **Sodium arsenite** — dissolve 5.0 g $NaAsO_2$ in distilled water and dilute to 1 liter. (Caution: **Toxic** — take care to avoid ingestion.)
2. Label three comparator* cells or French square bottles "A", "B", and "C". Use 0.5 ml orthotolidine reagent in 10-ml cells, 0.75 ml in 15-ml cells, and the same ratio for other volumes of sample. Use the same volume of arsenite solution as orthotolidine.
3. Free available chlorine: To Cell A, containing orthotolidine reagent, add a measured volume of water sample to be tested. Mix quickly, and immediately (within 5 sec.) add arsenite solution. Mix quickly again and compare with color standards as rapidly as possible. Record the result (A) as free available chlorine and interfering colors.
4. Estimation of interference: To Cell B, containing arsenite solution, add a measured volume of water sample to be tested. Mix quickly, and immediately add orthotolidine reagent. Mix quickly again and compare with color standards as rapidly as possible. Record the result (B_1). Compare with color standards again in exactly 5 min. and record the result (B_2). The values obtained represent the interfering colors present in the immediate reading (B_1) and in the 5-min. reading (B_2).
5. Total available chlorine: To Cell C, containing orthotolidine reagent, add a measured volume of water sample to be tested. Mix quickly and compare with color standards in exactly 5 min. Record the result (C) as the total amount of residual chlorine present and the total amount of interfering colors.
6. Calculations:

   Total available residual chlorine = $C-B_2$.
   Free available residual chlorine = $A-B_1$.
   Combined available residual chlorine = total available residual Chlorine — free available residual Chlorine.

Report values in ppm or mg/l.

*This test uses a color comparator available from Wallace & Tiernan or Taylor. Instructions will be supplied with the comparator purchased which may be used instead of these instructions. The procedures shown here are taken from **Standard Methods** and should be applicable for most instruments.

PREFACE

The protection of our waterways is the responsibility of every citizen. This instruction manual has been prepared to assist you, the customer, in operating your plant at the highest degree of performance possible.

Hundreds, and in some cases thousands, of hours have been spent by your consulting engineer and us, the manufacturer, in the design and fabrication of the Wastewater Treatment Plant described in the plans and specifications.

Now, the treatment plant is yours to operate and maintain. If the required preventative maintenance is performed, the plant will provide many years of service. As with any mechanical equipment, periodic adjustments will be required. Your Can-Tex representative is well qualified, and is always available to assist you at such times. It should be emphasized that failure to operate and maintain this equipment may not only negate the warranty and lead to premature equipment wear, but may endanger the public health and safety.

This Instruction Manual describes the biological process utilized. On projects requiring phosphate removal, automatic sludge control system, tertiary filtration, etc., the applicable supplemental instruction manuals are included.

TESTING PROCEDURES

Biological Oxygen Demand (BOD_5)

1. Fill (by Siphon) two BOD bottles with oxygen saturated distilled water (dilution water) for the two blanks and partially fill two bottles for each sample to be run. (Note: Oxygen saturated water may be made by dissolving about 6 grams of sodium bicarbonate in five gallons of distilled water and aerating for several days until the DO of the water measures over 7.0 mg/l.
2. Place the correct size sample (using volumetric pipets) in each partially filled bottle and fill the remainder of the bottles with additional dilution water. (See Step 7)
3. Run a Dissolved Oxygen analyses on one blank and on the one bottle from each sample set up. Record these values as shown in Step 8. Incubate one of each diluted sample and one blank in an incubator for five days at 20°C.
4. At the end of 5 days run a Dissolved Oxygen test on each of the incubated dilutions and blank, recording these results as illustrated in Step 8.
5. To obtain accurate results with this analysis, the DO value in the incubated sample should be approximately one half of the DO present in the plain dilution water. (See Step 7)
6. In order to calculate the BOD present in each sample, the following formula must be used:

$$(A- B- C-)\left(\frac{\text{ml in BOD bottle}}{\text{ml of sample used}}\right) = \text{mg/l BOD}$$

when: A = DO of the sample run when set up the first day.
B = DO of the sample incubated for 5 days.
C = Difference in the DO of the two blanks run in the test.

7. In order to determine the size sample used in the above formula, a system of trial and error must be employed to develop the best dilutions for testing a particular waste. The most suitable dilution is one that produces an oxygen drop of 50% or more and at the same time leaves at least 2 mg/l oxygen in the incubated samples.
For examples:

Using a waste with 200 mg/l BOD, the following dilutions would yield the results shown:

1 ml: 0 day DO = 8.0
5 day DO = 7.35
blank change = 0

$$(8.0\text{-}7.35\text{-}0)\ \frac{300}{1} = 200 \text{ mg/l}$$

5 ml: 0 day DO = 8.0
5 day DO = 4.65
blank change = 0

$$(8.0\text{-}4.65\text{-}0)\ \frac{300}{5} = 200 \text{ mg/l}$$

10 ml: 0 day DO = 8.0
5 day DO = 0.65
blank change = 0

$$(8.0\text{-}0.65\text{-}0)\ \frac{300}{10} = 200 \text{ mg/l}$$

It can be seen from the above examples that for a waste with 200 mg/l, a dilution with 5 ml of sample most nearly fits the requirement for an accurate test. As a general rule: Dilution of 5 ml will yield satisfactory results for raw sewage samples. Dilution using 60 ml will usually be sufficient for a BOD in the 20 mg/l range.

8. The following form may be used to record the data and allow for ease in interpretation while calculating results:

Sample	Volume Diluted	0-DO	5-DO	A-B	A-B-C
Raw	5 ml	8.00	4.75	3.25	3.35
Secondary	50 ml	8.00	4.10	3.90	4.00
Filter	120 ml	8.00	4.00	4.00	4.10
Blank	-	8.1	8.0	0.1	-

Calculation:

Raw: $(3.35)\ \frac{300}{5} = 200 \text{ mg/l}$

Secondary: $(4.00)\ \frac{300}{50} = 24 \text{ mg/l}$

Filter: $(4.10)\ \frac{300}{120} = 10.3 \text{ mg/l}$

Dissolved Oxygen (D.O.)

1. Fill a 300 ml BOD bottle with the sample to be tested (being sure no bubbles are present).* For BOD tests use prepared samples in Test II.

***Note:** When measuring the DO present in Mixed Liquor take sample and immediately do the following:
   a. Fill 1000 ml graduate with Mixed Liquor.
   b. Add 10 ml of 5% Copper Sulfate solution and mix by tipping.
   c. Allow sludge to settle below 600 ml and decant 300 ml of top water into the BOD bottle.
   d. Proceed with step 2 above.

2. Remove the glass stopper and add 2 ml of Manganous Sulfate solution (Hach #275).
3. Add 2 ml of alkaline-iodide azide reagent (Hach #277) and replace bottle stopper. Shake well and allow the precipitate formed to settle to one half the bottle volume.
4. Remix the bottle contents and add 2 ml of concentrated sulfuric acid (Hach #979).
5. Measure 200 ml (using volumetric flask) of the brown solution formed and place into a 250 ml Erlenmeyer flask.
6. Titrate the 200 ml sample with PAO reagent, Phenylorene oxide (Hach #1070), until the brown solution turns a straw yellow color. If the DO concentration is low it may be yellow following step 5 so proceed to step 7.
7. Add 2 ml of starch indicator (Hach #349), this will produce a blue color. Resume carefully adding PAO until all color disappears.
8. The ml of PAO added represents the mg/l of oxygen present in the original sample (1 ml = 1 mg/l).

Settleable Solids (SS)

1. Mix one liter of Mixed Liquor.
2. Place the sample in a clean 1 liter graduated cylinder.
3. Record the time at the start and allow the sludge to settle undisturbed for 30 minutes.
4. At the end of 30 minutes, record the level of settled sludge. This value is recorded as ml/liter settleable solids.

Anaerobic waste coming into the plant is normally caused by insufficient slope or partial stoppage in the sewer lines. Many times problems of this type can be traced to inadequate flow in portions of the line which can only be solved by occasional flushing. If problems cannot be traced to the sewer itself, individual discharges to the system should be checked. Unusually strong industrial wastes being discharged to the sewer may be the reason that anaerobic conditions prevail.

As a temporary means of correcting problems of this type, preaeration can be used. By aerating sewage prior to entering the treatment plant, overloads on the plant itself can be avoided. This practice may prove to be the simplest solution in cases where the anaerobic conditions are temporary, or otherwise unsolvable.

Color and appearance indicate the condition of activated sludge. Good activated sludge is normally medium brown. Black or grey sludge indicates low Mixed Liquor DO. Low Mixed Liquor DO levels are usually caused by organic overloading, or by carrying to much sludge in the system.

If laboratory analyses indicates that too much sludge is being carried in the plant, wasting rate should be increased to reduce the MLSS concentration. Lower MLSS concentration should result in higher DO, improved settleability, and lower effluent TSS.

Overloading caused by influent strength or flow will require more air to correct the problem. This can be obtained by using an additional blower or by changing the size of pulley sheaves on the blower if this is described in the blower instructions.

Proper sludge roll and agitation are important factors in maintaining peak removals. Normal aeration will raise the normal at-rest water level 3 to 4 inches. Flow in the Aeration Zone should appear to be rapid across the tank from the diffusers to the opposite wall. Sludge should also appear to be uniform over the surface of the Aeration Zones. Areas that appear less dense than others indicate that sludge is settling in the Aeration Zone. Sludge deposits are caused by inadequate mixing that occurs when too little air is employed. If blower output is normal, check diffusers to see that they are clear. Do not operate the plant without diffusers. This practice produces large bubbles which rise to the surface before adequate O_2 is transferred from the bubble to the water and will result in a reduction of available oxygen for the bacteria present. If the diffusers are clogged they should be cleaned using soap and water or replaced. If sock diffusers are used, they may be cleaned in automatic washing machine.

The 30 minute Settleable Solids (30 min. SS) test is a valuable tool for rapid determination of sludge condition. This test is described in the "Laboratory Tests Section". Simplicity of this test makes it practical for "on site" checks. Plastic graduated cylinders are available which can be left at the plant and used to run the test during routine maintenance. Daily 30 min. SS values can be used to be sure that the plant is operating properly even if other tests are not run on that particular day. By carefully using this test in conjunction with other solids analyses, the operator can control the plant with a minimum amount of laboratory work. Normal MLSS concentrations will have a 30 min. SS of 150-350 ml/l. Above this level, the Sludge is usually said to be "bulking". Since bulking can be caused by several factors it does not indicate what the problem is. However, it will result in an excessive amount of suspended solids in the effluent.

A poor settling or bulking sludge can be the result of filamentous organisms which appear as fluffy fibers. The filamentous organisms will flourish and outgrow the normal bacteria when the waste contains a high degree of readily consumable organics such as glucose and/or a low DO concentration in the Aeration Zone. To eliminate the filamentous organisms increase air supply to the plant. If this is not effective, then turn off the air for a 6 hour period to cause the plant to go anaerobic and destroy the filamentous organisms. Air is then turned on again and a 30 min. Settleable Solids test should be run again the next day. Repeat this operation until the sludge condition is corrected. A proper F/M Ratio (0.05 to 0.09), as previously discussed, will generally prevent the development of filamentous organisms and emphasizes the need for MLSS control.

OPERATING INSTRUCTIONS
Contact Stabilization Plant

INTRODUCTION

Biological waste treatment is a process which uses microorganisms to consume dissolved organic contaminates in wastewater and convert them to additional microorganisms. In aerobic systems, microorganisms are mixed with wastewater containing organics and aerated for a predetermined amount of time. After aeration, the mixture of microorganisms and water is conducted to a settling zone where the solid organic contaminates and microorganisms settle, allowing the water to be removed while leaving organics in the system as added cell growth.

"Tex-A-Robic" Contact Stabilization treatment system consists of five basic parts: (See figures 1 and 2, rectangular plant and figures 3 and 4, circular plant.)

1. Aeration Zone or Contact Aeration Zone
2. Clarifier
3. Chlorination Tank
4. Reaeration Zone or Stabilization Zone
5. Aerobic Digester

Wastewater enters the Aeration Zone where it is mixed and aerated with an equal volume of stabilized sludge discharged from the Reaeration Zone. During this period of aeration, dissolved organics in the wastewater are consumed by the biology and the solid organics are entrained in the biological sludge. Combined sludge and water (Mixed Liquor) flows from the Aeration Zone into the Clarifier for separation. In the Clarifier, sludge is allowed to settle to the bottom and the clear water flows over a weir to the Chlorination Tank. After chlorination for disinfection, the water may be discharged from the plant or to other processes. Sludge settled out in the Clarifier is pumped to the Reaeration Zone where absorbed and entrained organics are broken down and consumed during a period of additional aeration. Biological sludge, in the Reaeration Zone, is returned to the Aeration Zone to continue the treatment process. Excess biological sludge produced is periodically removed from the operating process by pumping a portion of the sludge in the Reaeration Zone to the Digester. Under continued aeration in the Aerobic Digester, the biological sludge is ultimately reduced to relatively inert matter. When dried on sand beds or by mechanical methods, the digested sludge can be used as landfill.

Other mechanical equipment and devices normally furnished with the plant are as follows:

(1) Bar Screen — To remove large trash from the waste as it enters the plant. Solids collected by a Bar Screen may be disposed as landfill as it does not require further treatment. (See Figure 1 and 3)

(2) Blowers — To provide compressed air for the process. (See Figure 1)

(3) Air Diffusers — To diffuse compressed air into the Aeration Zone. (See Figure 2, 3 and 4)

(4) Sludge and Scum Collector — (Circular plants only) To collect the sludge at the bottom of the Clarifier and the floating scum on the water surface of the Clarifier for return to the Reaeration Zone or disposal. (See Figure 1, 2, 3 and 4)

(5) Air Lift Pump — To transfer sludge and scum from the Clarifier to the Aeration Zone. Air lift pumps are also used to discharge excess sludge. (See Figure 1, 2, 3 and 4)

The following is a list of accessory equipment that may be included with your plant.

(A) Comminutor — To grind up trash entering the plant to eliminate hauling to landfill. (See Figure 3)

(B) Chlorinator — To meter chlorine to the plant effluent for disinfection.

(C) Froth Control Spray — To break up detergent suds that sometimes develop in the aeration zones. (See Figure 1 and 3)

Aerobic waste treatment utilizes biological actions similar to those found in natural waterways. Treatment plants are designed to speed up natural water purification processes and provide means for treating and disposing of waste products removed from water. "Sludge" is made up of a mixed culture of bacteria called **Zoogloea ramigera.** Other microrganisms such as Paramecia are also present and are referred to as "'free swimmers". All of these organisms remove organics and some inorganics by using these materials for food and as essential nutrients.

Microorganisms remove wastewater contaminates by absorption and adsorption. Adsorption involves adhering of contaminates to the surface of cells. Material entrapped in this manner is carried by the cell until it is completely digested or disposed as waste sludge. Absorption involves taking contaminates into the cell. Materials absorbed are completely digested by the microorganisms. In both cases the end products of the process are CO_2 and H_2O. Sludge containing substances not readily degradable can eventually metabolized in the digester or holding tank. Digested sludge is relatively inert and can be readily dewatered for landfill.

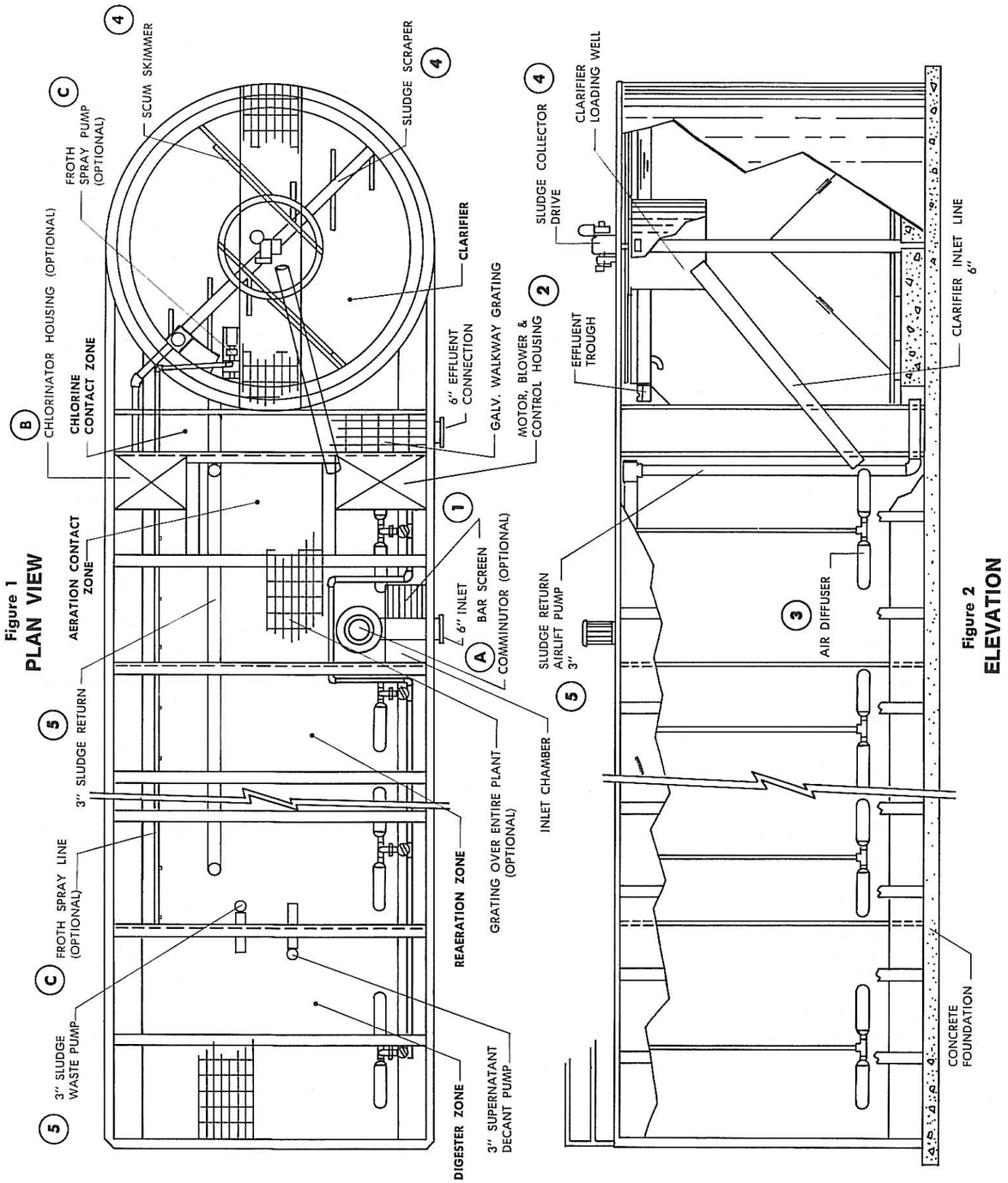


Figure 1
PLAN VIEW

Figure 2
ELEVATION

SAMPLING AND ANALYSES

Sampling Time and Locations

In order to obtain the best performance with a wastewater treatment plant, it is necessary to know:

1. The amount and type of contaminants in the wastewater being treated.
2. The amount of biological sludge maintained in the plant for the process.
3. If adequate dissolved oxygen is available in the aeration tank for the process.
4. The amount of contaminants remaining in the effluent.

To obtain this information it is necessary to take samples and perform certain laboratory analyses described in other paragraphs of this Section and in the Laboratory Instruction Section of these Operating Instructions.

Proper sampling location and time of sampling is imperative if accurate testing is to be accomplished. A number of samples should be taken at the same location and time each day they are collected. Erroneous results may occur if, for example, raw sewage samples are taken at peak flow and effluent samples are taken at low flow. If samples are taken in this manner, raw sewage values will be higher than average, and effluent values will be lower. If this timing is reversed, the results will likewise be reversed. Flow to the plant during a 24 hour period may vary from 50% to 300% of plant design flow. Degree of contamination of the wastewater will also vary during this period. For this reason you should select a time when average conditions exist to obtain a measure of average performance. A better understanding of the performance can be obtained by taking additional samples at minimum, average, and peak flow periods. However, the most accurate evaluation is obtained with automatic samplers described later in this Section.

Locations should be selected at points where the most representative sample can be obtained. Points where flow or aeration is very low should be avoided. Sampling points should be carefully located and then used repeatedly. For raw waste samples, a point just before the bar screen or communitor is suitable provided it is not in an area where solids accumulate. Effluent samples should be collected at the outfall line if possible. Collecting samples in the chlorine contact tank should be avoided to prevent false results in BOD tests from high Chlorine levels.

Mixed liquor samples should also be taken from the Aeration Zone at the same time as other samples. Areas in the Aeration Zone near the sludge return pumps or influent line should be avoided. A point midway in the Aeration Zone and between the diffusers should give representative sample.

Automatic samplers should be used for sampling influent and effluent if possible. Problems associated with obtaining representative samples manually make it difficult to obtain accurate results. An automatic sampler coupled with a flow meter provides a dependable type of sample collection since it is proportional to flow. Samplers operated in this manner can be set to take a given sample volume for every 1000 gallons received at the plant. With this type sampling, or samplers which take hourly samples, the composite sample obtained is more representative of waste received and the water discharged during the entire 24 hour period.

Sampling Technique

Procedures used to collect samples are important if accurate laboratory evaluations are to be made. Sample collectors, storage bottles, preservation methods, and clean equipment are all important factors in sample collection and storage.

Commercial sample collecting apparatus are available although not really necessary for sampling at a waste treatment system. A suitable dipper for collecting samples can be made by attaching a handle to a coffee can or other suitable container. This container should be large enough to collect all of a given sample in one grab and be kept clean when not in use. Cleaning the container between each sample is very important to avoid contamination of samples. Immediately prior to taking a sample, rinse the container with a portion of the water to be sampled. This practice helps to insure against sample contamination from material in the container.

Samples collected in a can or other dipper are then transferred to a holding container. Polyethylene bottles with screw cap closures have been found to be suitable for storing samples. These bottles can be marked for identification using a felt tip pen. Bottles which hold 500 ml, approximately one pint, provide enough volume to perform all of the tests normally run on waste samples. Larger bottles should be avoided due to the increased storage space required.

Samples collected should be analyzed as soon as possible. Biological and chemical reactions occurring in samples continually change values. Samples can best be preserved by refrigeration near 4°C or 40°F. Sulfuric acid (1500 ml/l or chloroform (5 ml/l) have both been used as preservatives. These methods are unsuitable for some of the tests normally run on waste treatment system samples and therefore should not be used unless the test to be run specifically calls for one of these preservatives.

Visual Tests

The ability to recognize changes in sludge condition and plant operation is needed by every plant operator if he is to be successful in maintaining suitable plant performance. Some of the "tricks of the trade" can be learned by being told what to look for while others can only be developed with experience. A few points to look for are described below. These observations should be used as indicators. Visual observations can be used to help determine immediate problems and to indicate what laboratory tests are likely to confirm. Visual observations should not be expected to replace laboratory testing but will help to suppliment laboratory tests. Total reliance on appearance alone will nearly always lead to major plant upsets which may cause a loss of treatment.

Raw sewage is grey or grey-green. Normal waste has a slight odor, normally an ammonia smell. Dark or black influent indicates an anaerobic condition. Anaerobic sewage has a very pungent odor which is indicative of sulfur bacteria forming H_2S. Anaerobic waste will cause a decrease in Mixed Liquor DO which can cause anaerobic conditions to be established in the Aeration Zone. These conditions may make it impossible to get enough air to the plant for proper treatment.

RECOMMENDED LABORATORY EQUIPMENT

In order to perform the tests given in this group of procedures, the following equipment will be a minimum recommended requirement.

Basic Equipment

1. Analytical Balance (Metler Series H10W, 0.1 mg sensitivity or equivalent)
2. Analytical Oven (0° — 200°C range)
3. Incubator (dry type, 20°C temperature ± 1°C)
4. Solids Apparatus (Millipore Corporation, Bedford, Massachusetts, Catalog #XX10-047-30)
5. Vacuum Pump
6. pH Meter (Corning Model 5 or equivalent)
7. Color comparator with color standards for chlorine test (Wallace & Tiernan U-2374 or equivalent)

The following is a list of glassware and accessories recommended for use with this group of tests and may be purchased through any scientific supply company:

Item	Quantity
BOD Bottles (300 ml capacity)	24
Pipets	
Graduated 5 ml	12
Graduated 10 ml	12
Volumetric 5 ml	4
Volumetric 10 ml	4
Volumetric 25 ml	4
Volumetric 50 ml	4
Volumetric 100 ml	4
Graduated Cylinders	
10 ml	4
25 ml	6
100 ml	4
1000 ml	3
Flasks	
Erlenmeyer 250 ml	24
Volumetric 100 ml	6
Volumetric 1000 ml	2
Filter Flasks 1000 ml	2

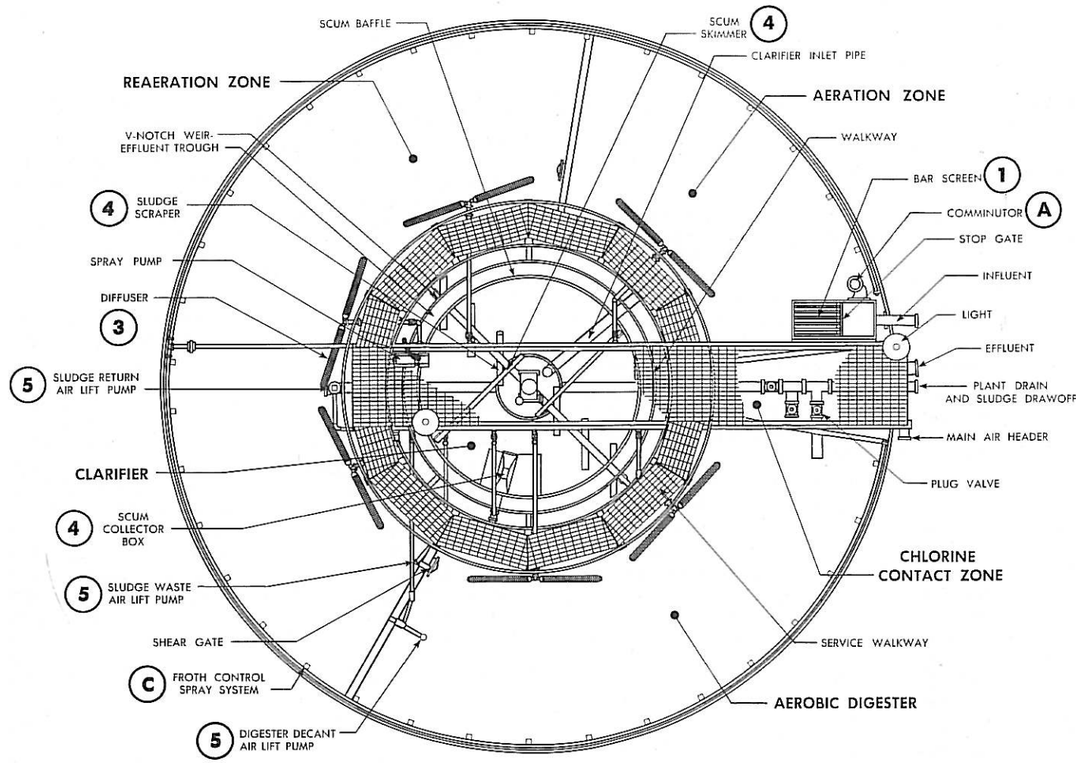
Other Accessory Equipment

Item	Quantity
Dessicator (bowl type)	1
Test Tube Rack	1
Spatula	1
Vacuum Tubing	5 ft.
Burette (acid type, 25 ml)	2
Burette Stand	1

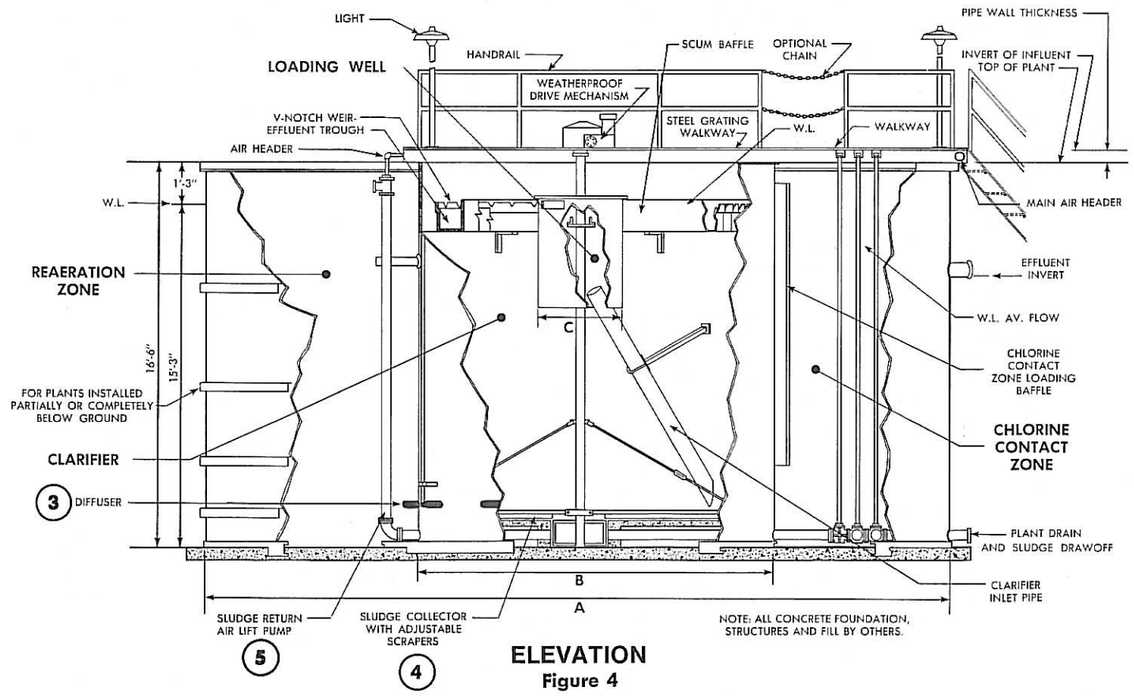
The following reagents are required:*

Manganous Sulfate	(Hach # 275)
Sulfuric Acid	(Hach # 979)
Alkaline Potassium Iodide	(Hach # 277)
Starch Indicator	(Hach # 349)
Phenylorene Oxide 0.025N	(Hach # 1070)
Anhydrous Calcium Chloride	
Sodium Bicarbonate	
Hydrochloric Acid	
Fiberglass Prefilters	(Millipore # AP2004700)
Sodium Arsenite	
Orthotolidine	

*Where indicated, reagents may be purchased from Hach Chemical Company, Ames, Iowa, or Millipore Corporation, Bedford, Massachusetts. Other reagents may be purchased from any chemical supplier.



PLAN VIEW
Figure 3



ELEVATION
Figure 4

PLANT START-UP

Filling

Initial filling can be made using raw sewage, water, or mixed liquor from a plant already in operation. If possible, a combination of these should be used.

Before attempting to fill the plant, all valves and gates between compartments should be opened. Opening valves is to insure that all compartments fill at the same time to prevent undue stress on various structures and partitions in the plant. These units are designed to have water on both sides of interior walls. Pressure exerted on these walls by filling only one side may cause undue stress resulting in deformation.

It will be desirable to use fresh relatively clean water to fill plant until the water level reaches the air diffusers. Stop filling and make sure that all of the air diffusers are level and at same depth. If clean water is not available, activated sludge or raw sewage can be used but tends to make the leveling job unpleasant.

Note: Avoid putting raw sewage or sludge in the Chlorination Zone since it will be difficult to remove solids and long term contamination of the effluent will occur. After leveling the diffusers, sludge should be used to fill the plant to approximately ⅔ full. The remaining ⅓ can then be filled using raw sewage. These approximate volumes have been found to yield the best results when starting a new plant. Air to the diffusers should be started after leveling and continued at all times after sludge and/or raw sewage is added.

When the above schedule of adding water, sludge, and sewage is followed, foaming should not present a problem. If raw sewage alone or sewage and water is used foaming is likely to be a problem until adequate sludge is accumulated. Foam can be controlled by spray or by organic defoaming chemicals added to the plant. Defoaming chemicals are available from most water treatment chemical suppliers.

Adjustments

After the plant is filled, several adjustments will need to be made.

As water begins to overflow the clarifier weir, check for uniform overflow. If water is not flowing over the weir along its entire length, adjust the "V" notched weir plate so an even distribution is obtained. Failure to perform this adjustment results in "short circuiting" a portion of the clarifier flow which tends to draft solids up and over the weir. Sludge lost in this manner increases effluent solids and BOD, and also causes a loss of sludge from the plant if allowed to continue. Proper use of the clarifier depends on full use of designed weir length.

Sludge return is also important to plant and clarifier operation. CAN-TEX Contact Stabilization plants operate on a 100% sludge return rate using airlift pumps employing air regulated by valves. This means that for every gallon of water entering the plant, a gallon of sludge is returned from the Clarifier to the Reaeration Zone. In normal practice, sludge return is based on plant design flow in GPM and return pumps operate at a constant rate. If practical, the airlift pump flow can be measured with a 5 gallon bucket and stopwatch. As an example, a 20,000 GPD plant will have a sludge return rate of about 14 GPM. This is calculated by dividing the plant capacity of GPD by 1440 to obtain the GPM return rate. When it is impractical to measure flow by bucket, measure the solids concentration discharged. A sample of the discharge, when allowed to settle 30 minutes, should show that ½ to ¾ of the volume is settled sludge. If less than ½ is sludge, reduce the air to the pump. If more than ¾ is sludge, increase the air to the pump. When the sludge return rate is not high enough, sludge will be black and will smell bad.

Another important adjustment is the air diffusion rate. By adjusting the valves at each drop pipe, the mixing action in the aerated zones can be regulated. Visually determine if all of the air diffusers are producing the same turbulence; if not, adjust the valves. Turbulence caused by air diffusion should create enough mixing action to rapidly rotate contents of the tank. If this does not occur, check blowers and lines to be sure that 100% of designed air volume is being delivered. Failure to provide a proper roll will permit solids to settle to the bottom of the aerated zones and produce an anaerobic condition. After 30 minutes, check the Mixed Liquor Dissolved Oxygen concentration as described in the Sampling and Analyses Section of the Operating Instructions. The DO concentration should be 1 mg/l or greater. Oxygen demand for biological performance is greatest in the Aeration Zone and more air for each air diffuser in this zone will be needed than in the Reaeration Zone and Aerobic Digester. Partially closing diffuser valves in the Reaeration Zone and Aerobic Digester will force more air to the Aeration zone. Additional DO measurements should be made to insure adequate air is reaching all aerated zones. If DO continues to be less than 1 mg/l, the air supply is inadequate and should be investigated. You should look for valves not fully open, a leak in the airline or possibly too much air is being used for the airlift sludge return pumps. If the problem is not found in the system, then it is possible that the wastewater is septic or stronger than anticipated. In this event, more air is needed and:

1. Start up a second blower if available.
2. Replace pulleys on blower and/or motor to produce more air.

   Caution: Do not change the pulleys if additional pulleys were not supplied with the plant. Instead contact CAN-TEX for directions.

After all the above steps have been taken, the plant is in operating condition. If sludge was used as recommended, the procedure outlined in "Sludge Development" may be skipped. If sludge was not available at start-up, follow the directions in the next section.

Sludge Development

As with all biological waste treatment systems, CAN-TEX plants are based on biological actions which take place in natural streams. Organisms necessary to clean up sewage are present in all domestic wastewaters. Normally, these microorganisms are not present in sufficient quantity to readily consume the organics present. In a waste treatment plant, conditions are such that the bacteria normally found in sewage will

ning to insure that the settled sludge is returned to circulation.

Note: Following the temporary shutdown of air diffusion previously described or in any event if it is found that the DO concentration cannot be maintained between 1 and 2 mg/l with the usual amount of air, then it is possible that one of the following conditions exist:

1. BOD concentration of the raw sewage has increased.
2. Sludge has accumulated and remains at the bottom of the Aeration Zone.

If the BOD has increased, more air will be required than previously used. If sludge has accumulated at the bottom of the Aeration Zone, it will be anaerobic and will sap much of the dissolved oxygen. This sludge should be brought into active circulation with a screed or water probe.

An airlift pump scum skimmer is provided to remove and return floating solids to the Reaeration Zone. Circular clarifiers have rotating arms to accumulate and conduct the scum to the scum pump. Clarifiers will also have a scum baffle to prevent the scum from overflowing the effluent weir. Under some conditions scum will accumulate faster than it can be removed and may clog the skimmer inlet. If the scum is allowed to remain on the clarifier surface, it will dry and form a crust that smells and may be a harboring nest for flies. Good maintenance is achieved by hosing the Clarifier surface at least once each day to break up the floating material. It will then either settle or be removed with the skimmer. Scum is a greater problem when a brown foamy froth develops on the Aeration Zone surface. Flotation of fine solids may result when the froth enters the Clarifier. There is no easy solution since the froth is caused by grease and other kitchen wastes that make it too tough to be broken up by a surface spray. Again, care should be taken to get all of the sludge back in circulation by using enough air.

Zone should be taken and analyzed for TSS concentration of the sludge. With this concentration, it is possible to determine the number of gallons or cubic feet of sludge to waste to the Digester to remove the pounds of sludge growth. The following equalities were used to construct Figures 11 and 12:

1. A 4000 ppm (mg/l) mixture is 0.4% solids.
2. A gallon of water weighs 8.34 lbs.
3. A cubic foot of water weighs 62.5 lbs.
4. A cubic foot equals 7.48 gallons.

When the concentration of the Reaeration Zone sludge has been determined in ppm (mg/l), Figures 11 and 12 can be used to calculate the volume of sludge to be pumped to the Digester. Figure 11 gives the number of gallons of sludge that should be pumped from the Reaeration Zone for each pound of sludge growth. Figure 12 gives the number of cubic feet of sludge that should be pumped from the Reaeration Zone for each pound of sludge growth. The two methods of measurement are for convenience purposes and the values read with the figures should be multiplied by the total number of pounds of sludge growth previously calculated.

To waste the amount of sludge required, it is necessary to have a means of volume measurement to know the right quantity has been removed from the Reaeration Zone. Two practical alternatives are:

1. If the plant airlift pump discharge has a flow metering device, such as a Parshall flume or "V" notch weir, it is possible to measure the flow rate in gallons per minute (GPM). Divide the total gallons to be wasted by this flow rate to determine the number of minutes required to waste the volume required. If the plant does not have a meter, it may be possible to devise one or measure the flow rate with a 5 gallon bucket if the plant is small.
2. If Digester has an airlift decant pump to remove excess water from the sludge, it can be used to lower the liquid level. Calculate or measure the horizontal surface area of the Digester in square feet. The number of square feet is converted to the same number of cubic feet for each foot of depth. To use this method to measure the volume of sludge waste, turn off the air to the Digester and let the sludge settle to the bottom. Remove the excess water with the decant pump and lower the liquid level the number of feet needed to hold the volume in cubic feet of sludge to be wasted. Turn the air back on and pump Reaeration Zone sludge to the Digester until the liquid level rises to predetermined height.

Repeat these procedures on the established schedule to maintain the correct amount of MLSS in the Reaeration Zone. If the MLSS in the Reaeration Zone is found to increase or decrease over a 30 to 60 day period, it is necessary to consider one of the following alternatives:

1. If the BOD concentration has increased, more sludge will be produced. Based on the F/M Ratio, proceed to determine a revised MLSS concentration and the pounds of sludge to be wasted.
2. If there is no change in the amount of BOD to the plant then it can be assumed that too little or too much sludge is being wasted. This is readily corrected by changing the amount of Reaeration Zone sludge diverted to the Digester.

Note: Most plants will not receive the full amount of wastewater at "Start-Up" and therefore, the MLSS concentration used should be in proportion to the actual portion of design flow being treated. As an example, if 3000 mg/l MLSS concentration is required for design flow then only 1500 mg/l will be needed for 50% of design flow. However, no less than 1000 mg/l should be used even if the flow is only 10% of design flow. Performance at this low flow may not be as good but it is necessary to have this much sludge for full contact with the wastewater.

Clarifier Management

Proper management of the clarifier is necessary if solids loss caused by washout or flotation is to be avoided. Mechanical clarifiers depend on sludge collectors to conduct sludge to the airlift sludge return pump. It should be remembered that the prime concern in controlling the clarifier is to have the sludge continuously returned to the Reaeration Zone. Sludge should not be allowed to remain out of aeration long enough to become septic. When this occurs the following problems can be expected:

1. Anaerobic sludge in the clarifier will sap oxygen from the effluent. This will result in low DO and have adverse results on the receiving stream.
2. Anaerobic sludge will eventually begin to float and a large amount of sludge may be carried over the weir into the effluent stream.
3. Sludge accumulations may result in airlift pump clogging and cause the Clarifier to fill with sludge. To unclog airlift pumps, a water or air hose is snaked into the top of the pump and water pressure turned on to break up and clear the blockage.

The 30 minute Settleable Solids test, described in the Sampling and Analysis section of these Instructions, is the best method of predicting Clarifier performance. If the sludge settles and compacts well in the 30 minute period and the top water is clear, good clarification can be expected. When poor compaction is observed and the settled sludge appears filamentous or cottonlike, bulking should be suspected. Sludge bulking will ultimately result in complete loss of plant performance from loss of sludge. The problem can generally be traced to:

1. An excess of a highly consumable organic such as glucose in the wastewater.
2. A low DO concentration of less than 0.5 mg/l.
3. An F/M Ratio above 0.7.

First, check the DO concentration in the Aeration Zone and make provisions to have 1 to 2 mg/l residual DO. Then, reduce the sludge airlift pump sludge return rate. The filamentous organisms can be destroyed by anaerobic conditions that will develop if the sludge remains in the Clarifier for a longer period. If increasing the air and reducing the sludge return pump rate does not solve the problem, then a more drastic step is necessary. Turn off all air to the Aeration Zone for a 6 hour period during the low flow period between midnight and 7 a.m. This prolonged period of anaerobic conditions in the Aeration Zone should destroy the undesirable filaments and temporary loss of treatment during this low flow period should not present a problem. The air should then be turned on. If possible, more air than normally needed should be used at the beginning to quantities sufficient to consume all of the organics present

When attempting to start a plant without sludge ("seed") from another existing plant, it may take weeks and in some cases months, where the initial flow to the plant is substantially less than design, to obtain the necessary sludge development.

During this period, foaming will occur. If the plant is equipped with a foam control spray system, this should be turned on. A chemical defoamant should be used on plants without a foam control system.

Sludge growth should be permitted to continue, until maximum treatment is obtained. Sludge wasting should begin after adequate growth is obtained. For instructions on sludge wasting refer to "Guidelines for General Operation".

GUIDELINES FOR GENERAL OPERATION

Sludge Control

Sludge control is one of the major duties of a waste treatment plant operator. Sludge settling and compaction characteristics are a primary requisite to successful operation of the activated sludge process. With a poor settling sludge, solids carry over in the effluent will contribute not only TSS but also BOD which results in a loss of process performance. Poor compaction results in a low return sludge concentration and will limit the MLSS level in the Aeration Zone.

Metabolism and energy levels of the biology play an important role in whether or not cells will coagulate and form large floc particles for good settling characteristics. Performance is based on having enough biological sludge to readily consume the organic pollutants present in the wastewater. If biological sludge is in excess, some of it will die and the residue will be discharged in the effluent as TSS. The proper relationship is based on having a suitable balance between the organic matter and microorganisms and is called Food to Microorganism Ratio or F/M Ratio. F/M Ratio is the pounds of organic matter (BOD) per day per pound of microorganisms as MLSS and is normally set at 0.1 to 0.15 for Contact Stabilization plants treating normal domestic waste. This states that there should be approximately 7 to 10 pounds of MLSS in the plant for every pound of BOD contained in the daily influent. Measurement of BOD and MLSS concentration by Standard Methods is described in Sections on Biological Oxygen Demand and Total Suspended Solids. A 0.1 to 0.15 range in F/M Ratio allows for the nature of the organic matter and experience with the plant will determine the most desirable F/M to use. If the wastewater is partially or all an organic industrial waste, laboratory treatability studies should be made to determine the correct F/M Ratio.

Design parameters for each activated sludge process dictate the unit loading in pounds BOD per 1000 ft.^{3} of Aeration Zone. For Contact Stabilization plants, the Aeration Zone includes both the Reaeration Zone and the Aeration Zone. The combined capacity is first dictated by detention time, which is set at approximately 9 hours based on averaged plant flow. On this basis a 100,000 GPD plant has a 37,500 gallon or approximately 5013 ft.^{3} of combined aeration capacity. When treating 100,000 GPD domestic waste of 200 ppm (mg/l) BOD concentration, the waste will contain 166 lbs. BOD and the plant will have a unit BOD loading of 33 lbs. BOD per 1000 ft.^{3}. With an F/M Ratio of 0.10 to 0.15 MLSS concentration will range from 2500 to 1500 ppm (mg/l) in the Aeration Zone and 6250 mg/l to 3750 mg/l in the Reaeration Zone.

A nomograph for determining the correct amount of MLSS is included in these Operating Instructions. Figures 5 or 6 are helpful in determining the amount of BOD contained in the daily influent. For this purpose, the daily flow in MGD, ie 100,000 GPD is 0.1 MGD, and the BOD concentration in ppm is used to find the pounds BOD per day. Normal domestic waste will have a BOD concentration of 200 ppm. Nomograph in Figure 5 shows that 0.1 MGD with a BOD of 200 ppm has 166 lbs. BOD per day.

Figures 7 or 8 are used to determine the MLSS concentration required for the desired F/M Ratio. For this purpose it is necessary to divide the pounds BOD per day by the number of 1000 cubic feet contained in the Aeration Zone and Reaeration Zone. As an example, a 100,000 GPD plant has 37,500/7.48 = 5013 cubic feet or 5.013 units or 5.013 units of 1000 cubic feet, Therefore, 166 lbs. BOD divided by 5.013 results in 33 lbs. BOD per 1000 ft.^{3} of total aeration. The nomograph in Figure 8 will indicate that the MLSS concentration required for a single Aeration Zone system, using F/M Ratio of 0.15, is 3000 ppm MLSS. Since the Contact Stabilization process uses two aeration zones operating with different MLSS concentrations, it is necessary to multiply the 3000 ppm value by a factor of 0.5 to obtain 1500 ppm for the Aeration Zone MLSS concentration. Multiply the 3000 ppm by 1.25 to obtain 3750 ppm for the Reaeration Zone MLSS concentration. Measurements of the MLSS concentration are made by the laboratory method described in the "'Laboratory Instructions" section.

As discussed in the "Start-Up" section, MLSS will accumulate as treatment progresses since the microorganisms reproduce themselves. When the MLSS concentration in the Reaeration Zone reaches the level determined with the nomograph, it is then necessary to start removing the excess sludge produced. Laboratory measurements of MLSS concentration will show the amount of sludge growth and the growth rate in ppm/day can be determined by dividing the amount of growth in ppm by the number of days between measurements. With nomograph Figure 9 or 10 and MLSS growth in ppm/day, determine the lbs/day of MLSS growth to be removed.

Sludge Wasting — Manual Method

Having determined the amount of sludge growth in lbs/day, it is necessary to select a schedule for removing this excess sludge. The schedule may be once each day, once every other day, or once each week. Multiply the pounds of sludge growth per day by the number of days in the schedule to determine the total pounds of sludge to be removed.

In the manual method, sludge is wasted from the Reaeration Zone to the Digester using the waste sludge airlift pump. Samples of the MLSS in the Reaeration

BOD PPM

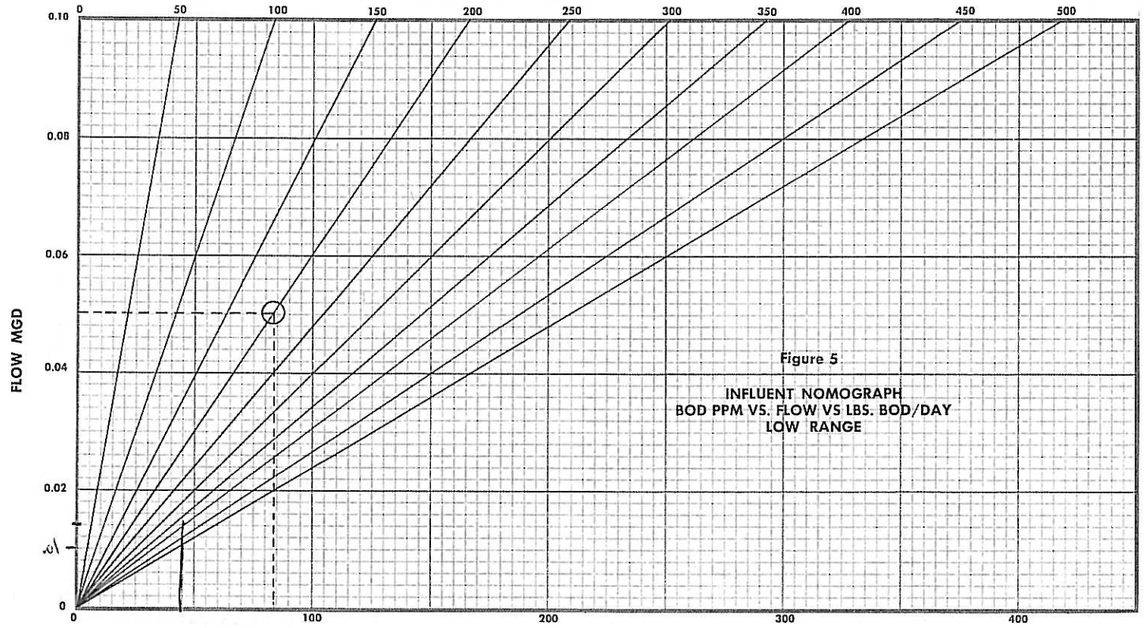


Figure 5

INFLUENT NOMOGRAPH
BOD PPM VS. FLOW VS LBS. BOD/DAY
LOW RANGE

BOD PPM

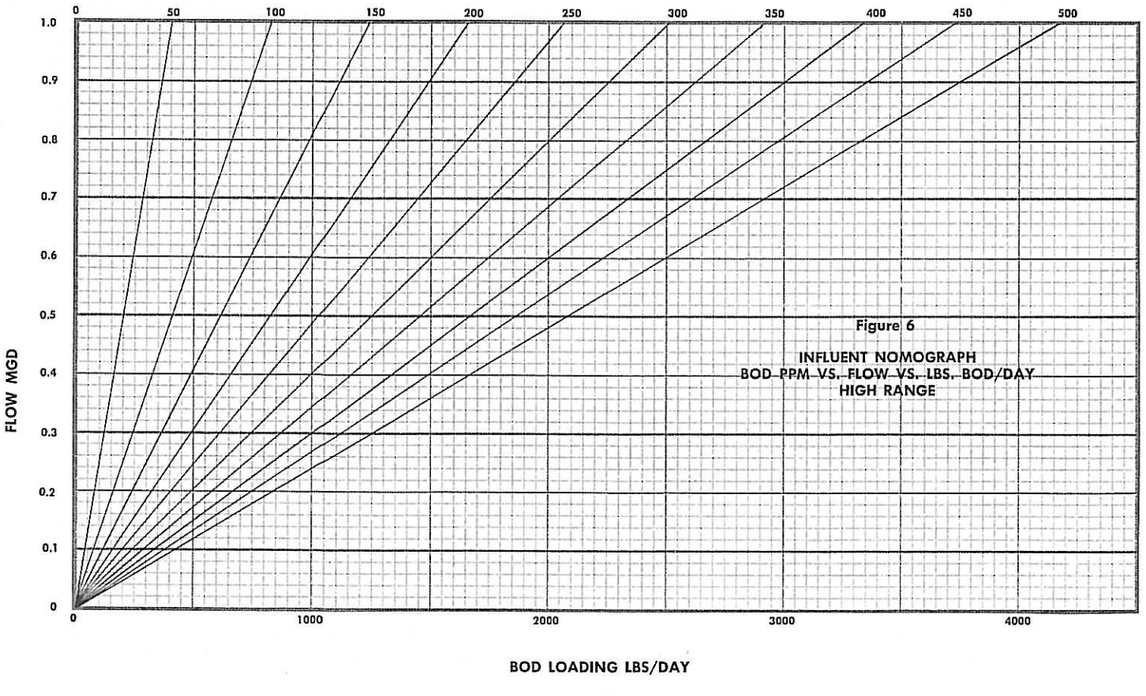
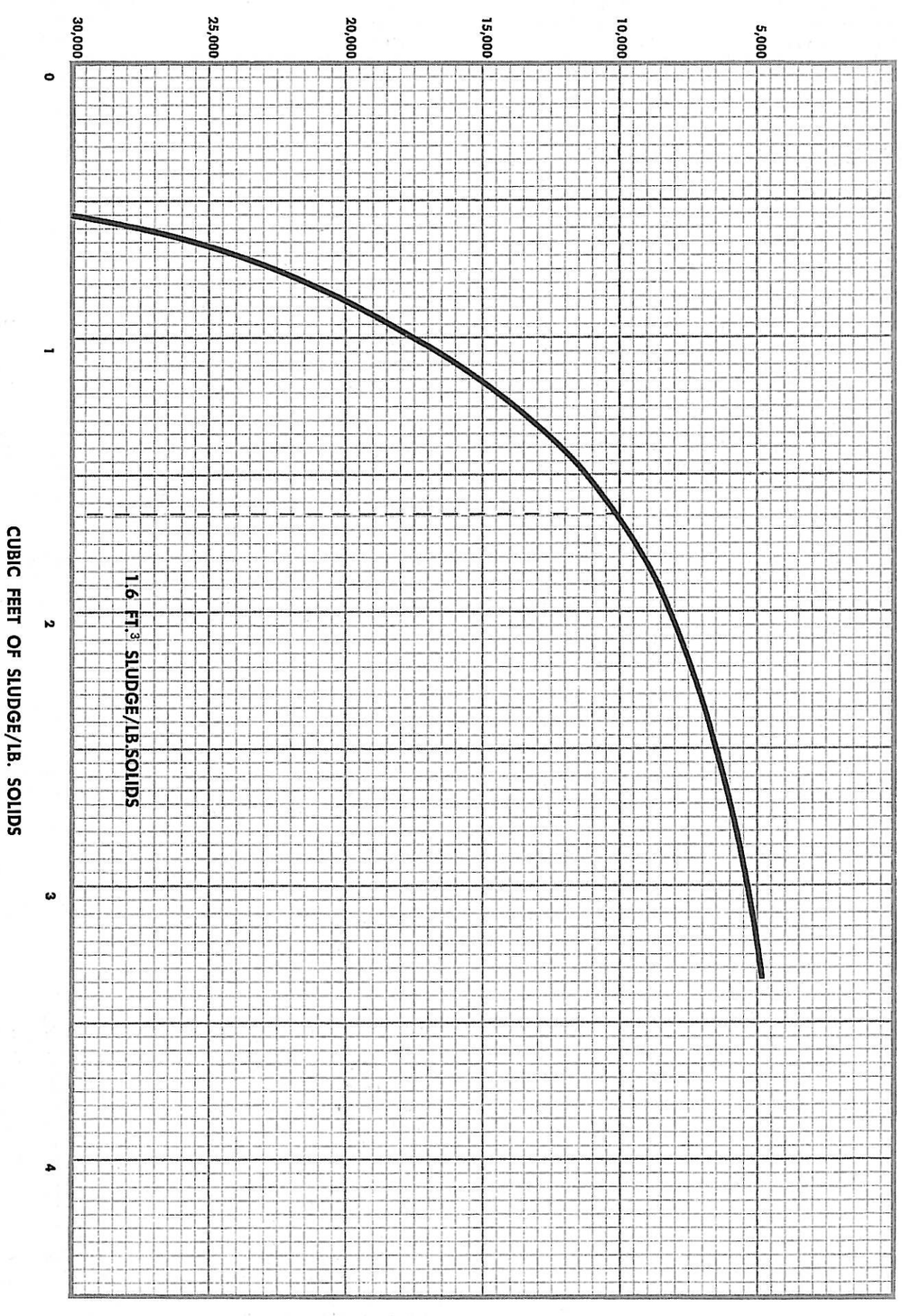


Figure 6

INFLUENT NOMOGRAPH
BOD PPM VS. FLOW VS. LBS. BOD/DAY
HIGH RANGE

WASTE SLUDGE CONCENTRATION (Mg/l)



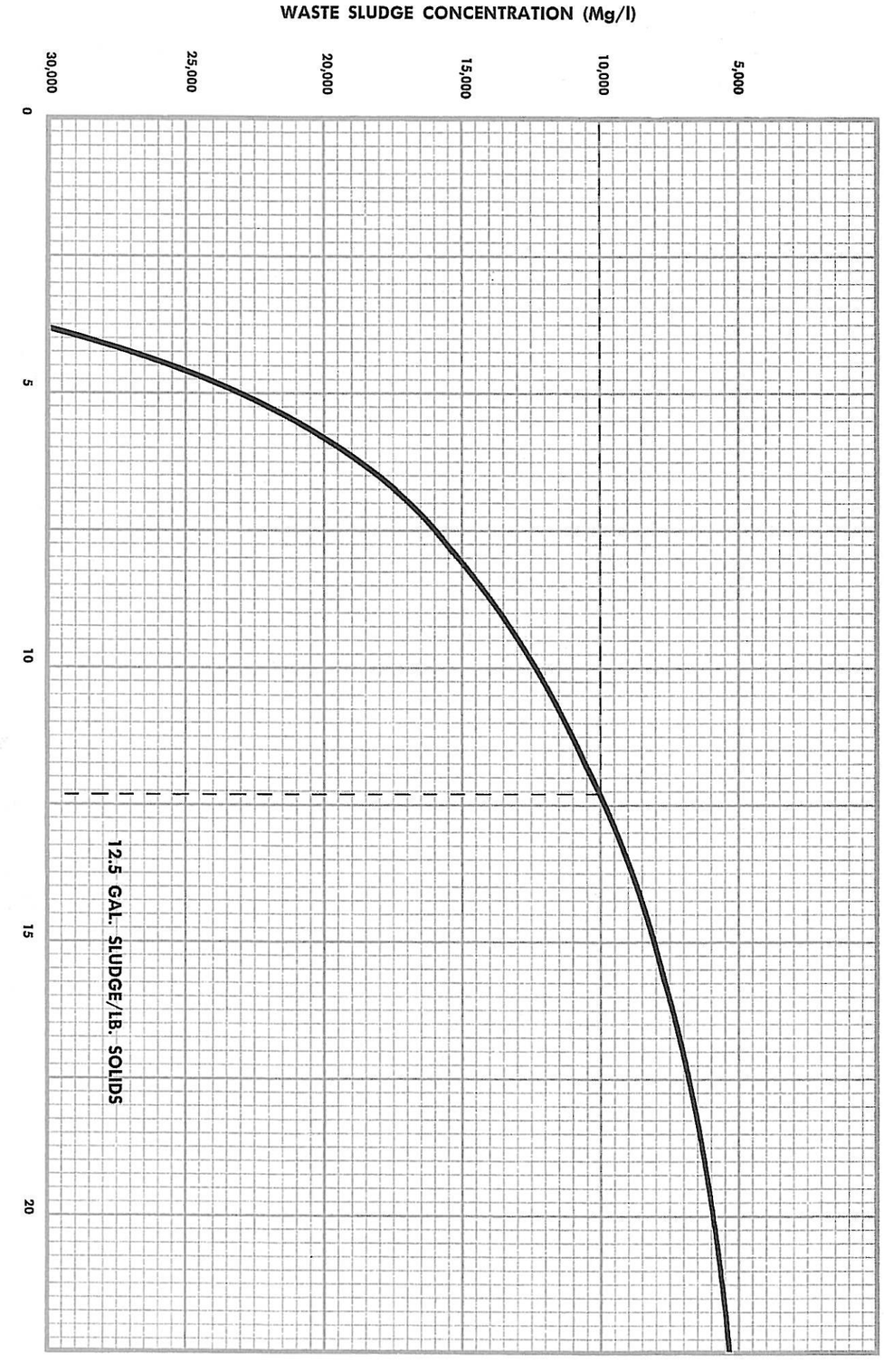


Figure 11

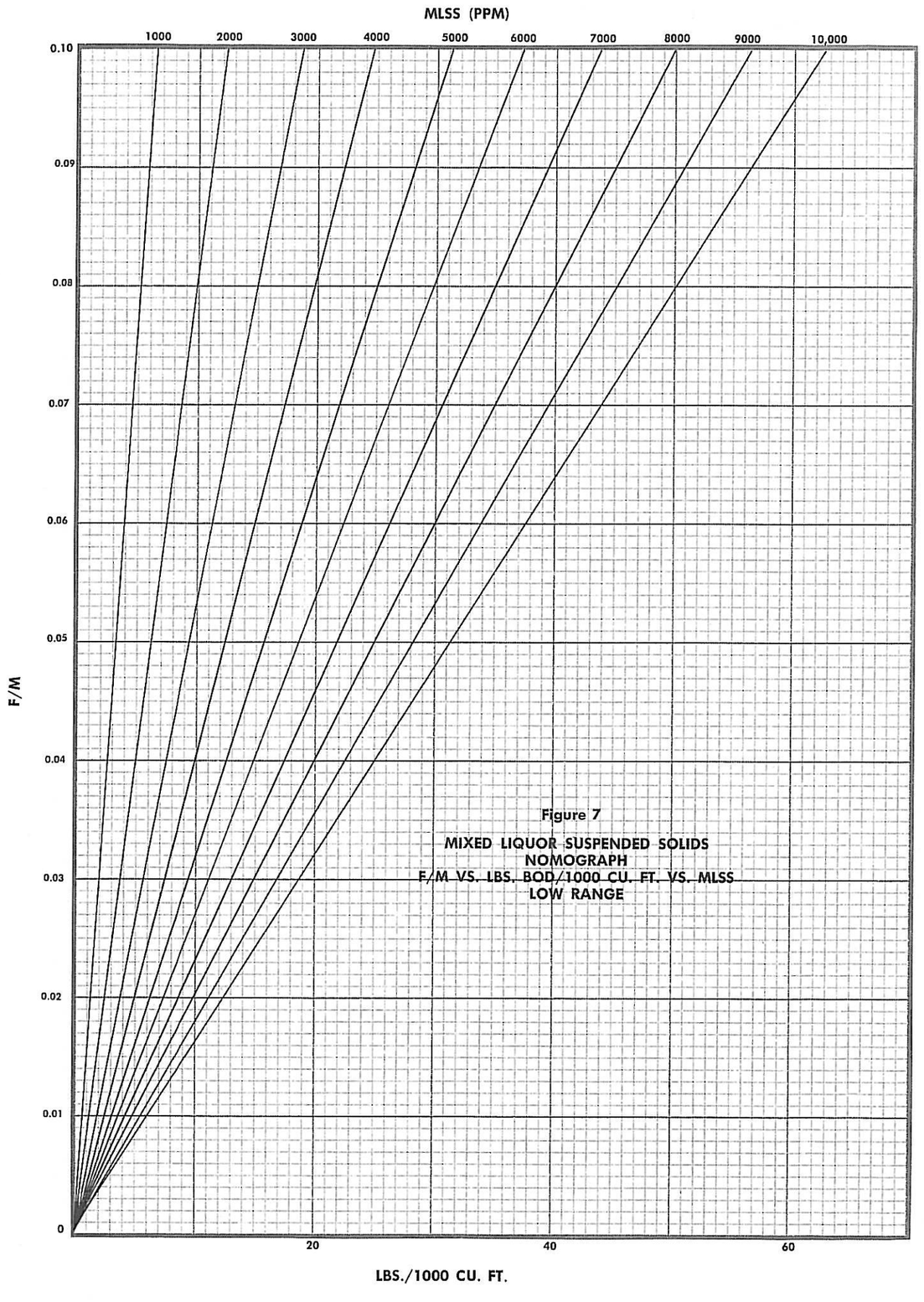


Figure 7

MIXED LIQUOR SUSPENDED SOLIDS
NOMOGRAPH
F/M VS. LBS. BOD/1000 CU. FT. VS. MLSS
LOW RANGE

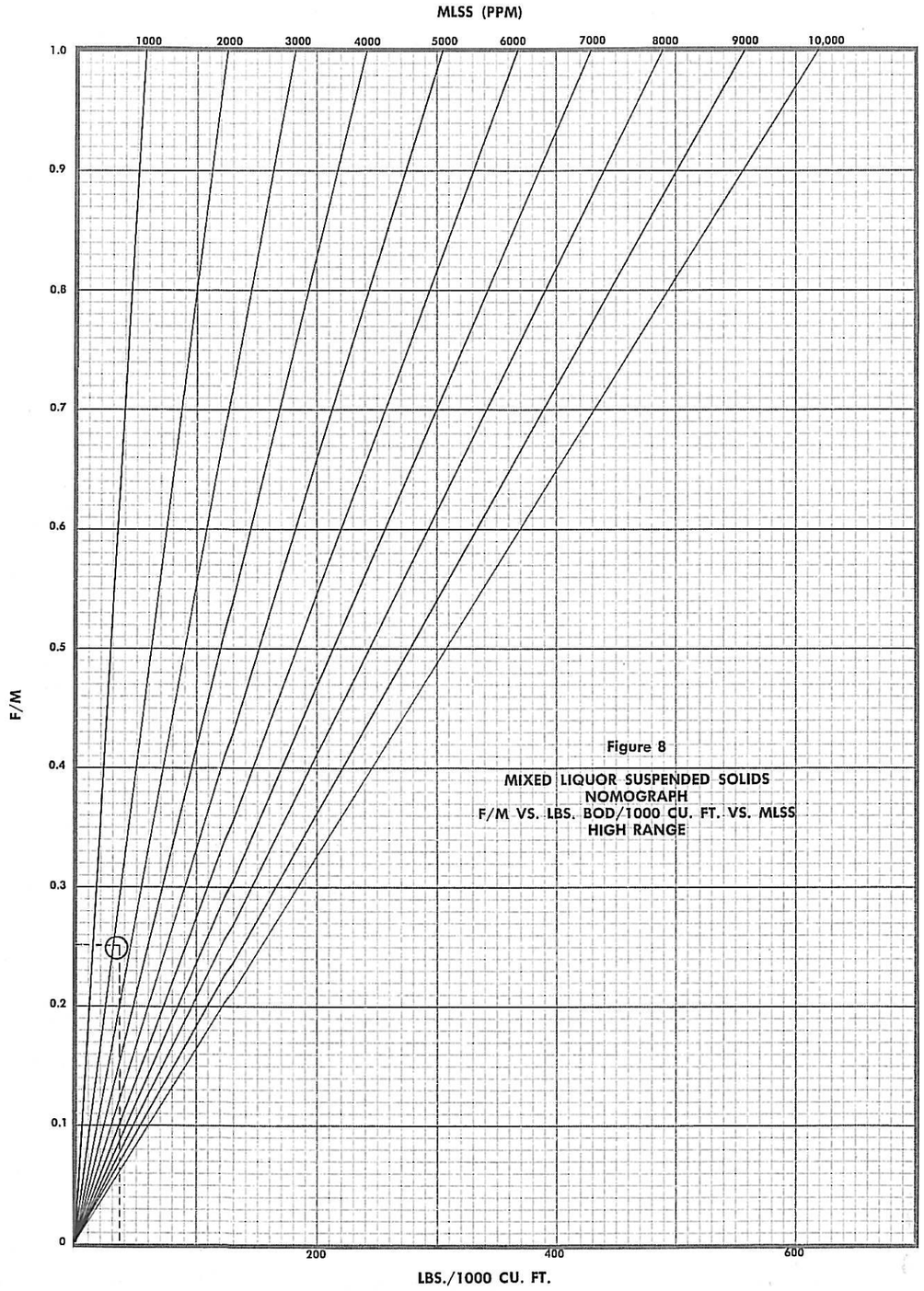


Figure 8

MIXED LIQUOR SUSPENDED SOLIDS
NOMOGRAPH
F/M VS. LBS. BOD/1000 CU. FT. VS. MLSS
HIGH RANGE

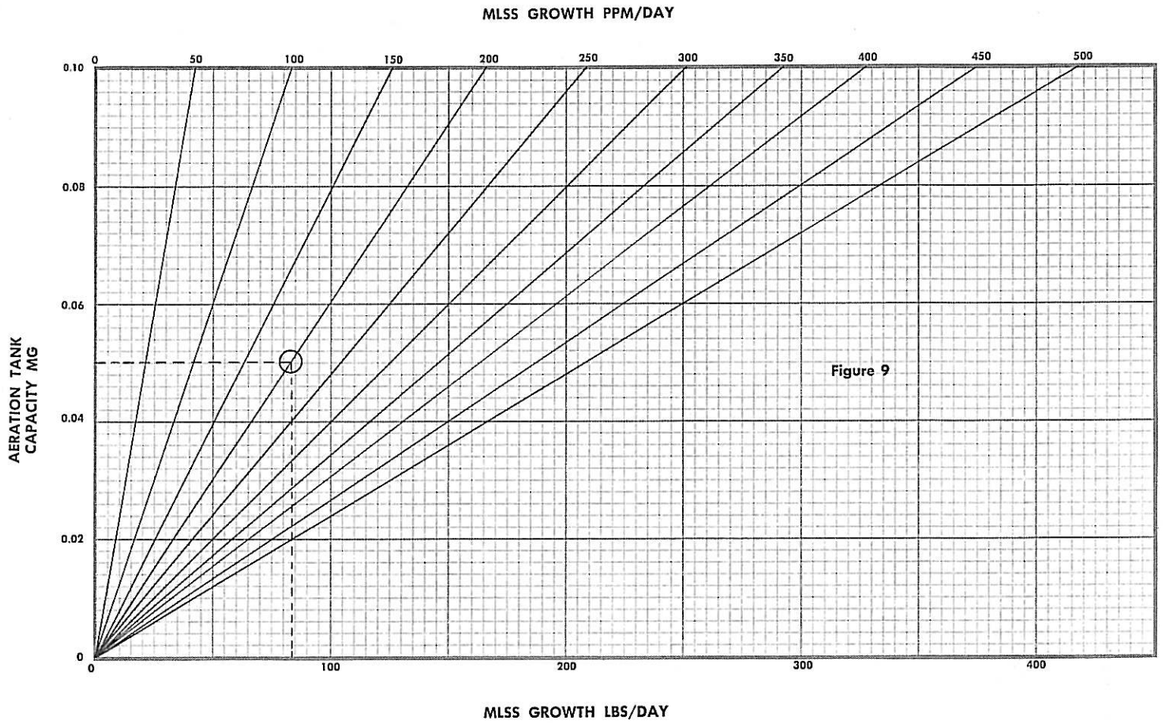


Figure 9

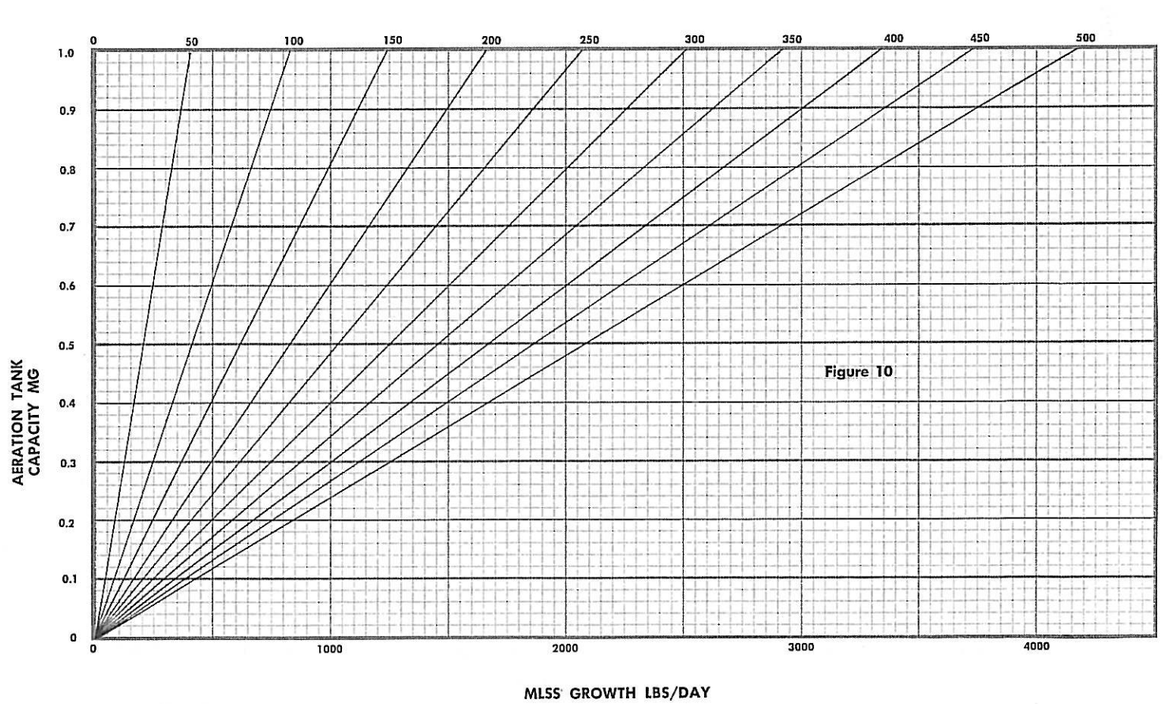


Figure 10

3.100 Greene County
Parkcrest

August 24, 1976

Mr. Tom Smith
Route 4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

This will confirm our conversation of August 23, 1976, relative to the chlorinator at your Parkcrest wastewater treatment facility.

As indicated, we question the ability of the chlorination device you have constructed to maintain a chlorine residual of 0.1 to 0.5 mg/l and provide effective disinfection on a continuous basis. We, therefore, request that it be demonstrated to the satisfaction of this agency that effective disinfection is being provided, or we must require chlorination facilities to be constructed in accordance with "A Guide for the Design of Sewage Works".

At weekly intervals beginning between September 1, 1976, and September 15, 1976, you are requested to collect and submit analyses of samples for eight weeks. The samples should be collected where the flow exits the solids trap and should be analyzed for fecal coliform bacteria and chlorine residual. We intend to collect and analyze samples periodically in addition to those you will be collecting in order to provide a more comprehensive evaluation.

If you have any questions concerning the sampling scheme required, please let me know.

Yours truly,

Ed Sears
Environmental Specialist II
Springfield Regional Office
Department of Natural Resources

ES:cm

cc: Water Quality Program
Steve Townley, Water Quality Program
Bob Schaefer, City of Springfield
Bill Sankpill, Public Service Commission

Park Crest Village

the operation of this lift station. This, however, should be proposed to the Springfield City Council by the owner of the treatment facility for their approval.

If you have any questions in regard to this letter, please let me know.

Very truly yours,

Robert R. Schaefer

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

RRS/rw

cc: Public Works
Legal Department

April 24, 1976

John Nixon
Regional Engineer
Missouri Clean Water Commission
1155 East Cherokee
Springfield, Missouri 65807

Re: Parkcrest Subdivision Waste Water Treatment Facility

Dear Mr. Nixon:

I have reviewed the Engineering Report on the subject, Treatment Facility, submitted by Wright and Associates, Consulting Engineers, and wish to make a number of comments.

The City has passed a bond issue which is for the purpose of supplying trunk sewers to outlying areas of Springfield. The Ward Branch Trunk Sewer which will serve the Parkcrest area is projected to be constructed within the next three years. It would seem feasible that a branch sewer to serve the Parkcrest area could be constructed at the same time, thereby providing sewer service for the Parkcrest Shopping Center area within three or four years. Because of this short amount of time, it would seem reasonable that some temporary solutions to the waste water treatment problems for the Parkcrest area should be considered. The report indicates that some alternative measures should be decreasing of the loading and chlorination of the effluent. I am in agreement with this but feel that all the lagoons, should be sealed to prevent any percolation through the bottom. I feel that this is a temporary solution that could be considered by your agency.

The City is very interested in solving this problem but is not interested in assuming any liability of operating this treatment facility. We will indicate to the Public Service Commission that we will not agree to take over operation, of the Parkcrest Waste Water Treatment Facility.

If, however, the owner of the treatment facility and development will put in a lift station at his cost, the City will consider taking over

the operation of this lift station. This, however, should be proposed to the Springfield City Council by the owner of the treatment facility for their approval.

If you have any questions in regard to this letter, please let me know.

Very truly yours,

Robert R. Schaefer

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

RRS/rw

cc: Public Works
Legal Department

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Howard Wiright DATE June 9, 1976

DEPARTMENT Law

Re: Parkcrest Treatment Plant

Personnel of the Division of Sanitary Services inspected Parkcrest Treatment Plant on June 4, 1976, and found the following deficiencies:

1. The dissolved oxygen in the aeration tank was zero; whereas it should have been between 1.0 and 2.0.

2. Both blowers were operating at the time of the inspection, but the dissolved oxygen was still zero.

3. The settleable solids in the aeration tank indicated that solids need to be wasted from the treatment plant. This could be done by a septic tank company pumping the solids into a tank truck and taking them to the North Plant.

4. A large amount of solids were floating in the chlorine chamber.

5. The lagoon was not discharging at the time of the inspection which indicated that the amount of flow going into the lagoons was percolating through the bottom of the lagoon or evaporating into the atmosphere.

This inspection indicated that there are still operational problems with the plant, and I would expect complaints from nearby homeowners concerning odors in the area. We will continue to inspect this plant on a weekly basis and let you know the results of these inspections.

RRS/rw

cc: Public Works file

SIGNED Robert R Schaefer
Robert Schaefer; Supt. of San. Services

D208

PUBLIC WORKS DEPARTMENT CITY OF SPRINGFIELD					
D.G.S.		R.E.H.		SEE ME	X
G.D.W.		W.J.M.		INFO. ONLY	
D.E.S.		E.E.N.		FILE	
J.H.B.		R.R.S.		PLEASE HANDLE	

RECEIVED
APR 12 1976
PUBLIC WORKS

April 9, 1976

Mr. Tom Smith
Route 4, Box 883
Springfield, MO 65802

RE: Engineering Report, Wastewater Disposal
Park Crest Shopping Center and Apartment Area
Springfield, Missouri

COPY

At your request, we have performed a study on the treatment facilities and discharge permit requirements on the referenced project. This report will document our findings and recommendations.

This report is required in the Schedule of Compliance of your National Pollutant Discharge Elimination System (NPDES) Permit Number MO-0084964. A specific deadline of April 12, 1976, is spelled out in a letter from the Missouri Department of Natural Resources dated March 9, 1976, and signed by Steven D. Townley.

Our study consisted of consultation with State and City officials, reviewing all available test data on system treatment performance, determining the average daily flow and BOD loading to the system, analyzing problems, and arriving at various alternatives and their costs.

The existing sewage collection system consists of approximately 3,400 feet of gravity sewer line. This line carries sewage to a CanTex Model EA300 extended aeration treatment plant with a capacity of 30,000 gallons per day of waste water containing 51 pounds of five-day BOD. Discharge from the plant flows into a three cell polishing lagoon with surface area as follows:

First cell	=	40,000 square feet
Second cell	=	15,000 square feet
Third cell	=	5,000 square feet

The treatment plant is capable of providing secondary treatment; however, it is not equipped with a chlorination for disinfection of final plant effluent.

The lagoons were built and in use prior to installation of the treatment plant. The first cell of the lagoon has limestone pinnacles projecting out of the water along its west side. This shows that at least a portion of the lagoon floor is on bedrock and, at most, has only a few feet of soil cover on the rest. To my knowledge, no sealing materials have been added to the lagoon floors or embankment walls.

WRIGHT & ASSOCIATES, INC.
ENGINEERS • CONSULTANTS • TESTING LABORATORIES
730 NORTH BENTON AVENUE SPRINGFIELD, MISSOURI 65802 PHONE 417/866-2741

There does not appear to be an overflow discharge from the lagoon system to the outside ground surface. This indicates the treatment effluent going into the lagoon is either leaving by evaporation or percolating through the lagoon floor. In this part of the state, the amount of evaporation nearly equals the rainfall when averaged over a year. This indicates that over a year the quantity of treated effluent entering the ground through the lagoon floor equals the total flow into the system. The quantity of sewage flowing into this treatment system will be discussed below.

The receiving stream for this effluent is the Ward Branch of the White River Basin. This portion of Ward Branch has been classified by the Missouri Department of Natural Resources as a losing stream. Therefore, any discharge to it would have to meet limitations of 5 mg/l for BOD and 10 mg/l for suspended solids.

There are 49 customers who are hooked to this sewer system and are billed for water use by the City Utilities of Springfield, Missouri. The establishments using these facilities include:

1	Seventeen unit apartment building
8	Duplexes (one bedroom/unit)
4	Four-unit, one bedroom apartments
1	Triplex (one bedroom/unit)
36	Stores (including a market and twenty-unit laundry)
1	Office Building
1	Restaurant

Records were checked at City Utilities for each of these customers to determine monthly water use for the past year. This study indicated an average monthly water use of 404,070 gallons. To our knowledge, no roof drains, no foundation drains, or storm drains are connected to this collection system. This water usage results in an average daily flow of approximately 14,500 gallons to the treatment system. Any additional flow would have to come from infiltration of ground water into the gravity sewer line.

The strength of the raw sewage flowing into the treatment plant was determined by the City of Springfield over a three-month period from November 5, 1974, to January 27, 1975. The results of these and other tests are enclosed as Exhibit E. The five-day BOD values for the raw sewage average approximately 400 mg/l. Considering an average daily flow of 14,500 gallons, the total five-day BOD loading is approximately 48 pounds per day. The plant was designed to treat 51 pounds of five-day BOD; therefore, the plant is approaching capacity considering this factor.

Exhibit E also shows test results on suspended solids and pH, along with the BOD values for both influent and the plant effluent. The per cent removal achieved by the plant is many cases is quite good, ranging up to 98 per cent removal of BOD.

Exhibit F shows test results our firm ran on one set of grab samples taken March 26, 1976. These tests show the plant effluent to have a BOD of 49.5 mg/l and suspended solids content of 54.0 mg/l.

Page 2 of the NPDES discharge permit issued for this facilty indicates the primary effluent limitation is to be such that there will be no discharge. We have shown above that the flow through the treatment system is approximatley 14,500 gpd. Considering there is generally no flow out of cell no. 1 except during periods of rain and that a maximum of one-quarter inch of percolation is allowed (6,233 gpd), we conclude there is a discharge of treatment effluent through the lagoon floor.

To eliminate a discharge from this facility would involve either connecting the collection system to a gravity line within the City of Springfield's collection system or by irrigating the sewage onto fields. Since there is only seven acres involved including that area occupied by the plant and lagoons and considering the location, we have concluded that irrigation is not feasible.

The only remaining method is to get the sewage into the City of Springfield's collection system.

Two definite alternatives appear feasible at this time. One is to pump the sewage to the nearest gravity sewer line and the second is to hook the system to a joint City sewer when it becomes available.

The key to the selection of one of these alternatives is the date set forth in the NPDES discharge permit for achieving compliance with the primary effluent limitation of no discharge. The "no discharge" limitation is to be achieved by May 1, 1977, according to the permit.

Exhibit D is a newspaper clipping dated April 7, 1976, telling of possible dates for completion of the Ward Branch trunk sewer. As stated in the article, it is possible the trunk line could be in service within two years.

A joint sewer would then have to be built before your system could readily hook to the City of Springfield's system. This information clearly indicates all of these events could not occur by May 1, 1977.

The only means of complying with the NPDES discharge permit would be to connect to the nearest City of Springfield sewer line. At this time, it would be a gravity sewer line in Campbell South subdivision near Walnut Lawn Street. Exhibit A shows the locations of your existing sewer line and the one near Walnut Lawn Street. To effect this solution would require a lift station and approximately 4,000 feet of pressure line. This data is based on placing the lift station on the lot where the water tower stands.

We have prepared a cost estimate for this alternative and the data is shown on Exhibit B. The total estimated costs, including engineering fees, is $35,620.

There are several disadvantages of providing this alternative. Some of them are:

1] A substantial initial cost.
2] The lift station and pressure line will be replaced (possibly within three to four years) by a joint sewer extending into the Park Crest area from the Ward Branch sewer.
3] Approximately 1,500 feet of pressure line must be built through residential and commercial areas.
4] Easements for the pressure line would have to be obtained from seven different property owners. Should resistance be encountered, there could not be any assistance from the City for condemnation because it is a private venture.

In conclusion, we recommend a lift station be built in the vicinity of the existing water tower and the sewage pumped to the existing gravity sewer in Campbell South. This recommendation is based on complying with the May 1, 1977, deadline in your NPDES discharge permit.

We do feel the disadvantages listed above should be considered, especially in view of the planning for the Ward Branch Trunk Sewer. In considering the test results on your system by the City of Springfield, we feel your plant could produce a consistent effluent by proper operation and maintenance of the plant. Some additional things that could be done are:

1] Cut down on BOD loading by restricting what goes into the sewer.
2] Installation of a chlorinator for disinfecting the plant effluent.

Therefore, if a solution could be effected whereby additional control is placed on the plant and its operation improved and continually monitored; we feel it would be more logical to hook the system to a joint sewer from the Ward Branch Trunk. This, of course, would have to be worked out among you, the Missouri Department of Natural Resources, and the City of Springfield.

If you have any questions on the contents of this report, please give us a call.

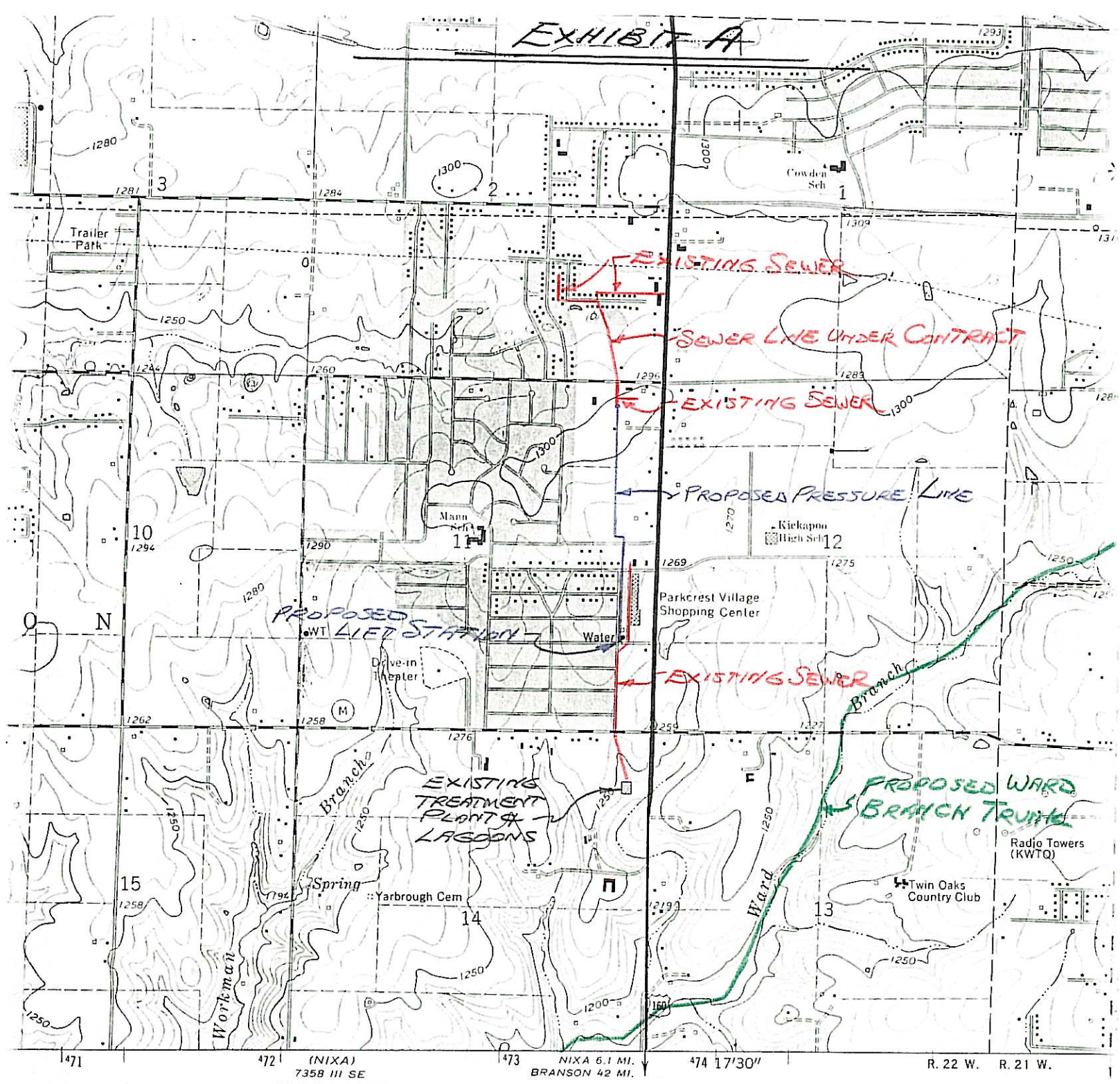
WRIGHT & ASSOCIATES, INC.

by:

Steven L. Brady, P.E.
Associate Engineer

SLB/ec

xc: Mr. Tom Smith
cc: Missouri Department of Natural Resources
Springfield Regional Office
cc: City of Springfield
Public Works Department



SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
E BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242
AND BY THE MISSOURI GEOLOGICAL SURVEY, ROLLA, MISSOURI 65401
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

EXHIBIT B

Lift Station Cost Estimate

Station Location: Lot 10, Block R, Park Crest Village

Gravity Sewer Location: Campbell South Subdivision

Estimated Distance to Pump = 4,000 feet

Item	Units	Unit Cost	Total
Wet Well	1	$ 400	$ 400
Duplex Pump & Controls	1	$6,000	6,000
Standby Power	1	$4,000	4,000
Easements	2500 ft.	$ 1	2,500
Gravity Line, 8-inch	100 ft.	$ 10	1,000
Pressure Line, 4-inch	4000 ft.	$ 3	12,000
Street Crossing Repair	3	$ 500	1,500
Subtotal			$27,400
Contingencies, 15 per cent			4,110
Engineering, 15 per cent			4,110
Total Estimated Costs			$35,620

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ENGINEERS • CONSULTANTS • TESTING LABORATORIES
730 NORTH BENTON AVENUE SPRINGFIELD, MISSOURI 65802 PHONE 417/866-2741

EXHIBIT C

Cost Estimates to Upgrade Existing Facilities

Objective: upgrade existing treatment plant to meet alternate effluent limitaion requirements.

Procedure	Costs
1. Cut down on BOD loading by restructing whatgoes into sewer	
2. Install Hypochlorinator	$ 500
3. Install tertiary filter (Cal Tex TF2R)	17,000
Subtotal	$17,500
Contingencies, 15 per cent	2,625
Engineering, 15 per cent	2,625
Total Estimated Costs	$22,750

WRIGHT & ASSOCIATES, INC.
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730 NORTH BENTON AVENUE SPRINGFIELD, MISSOURI 65802 PHONE 417/866-2741

CITY OF SPRINGFIELD

City Hall
830 Boonville Avenue
Springfield, Missouri 65802
417-865-1611

April 1, 1976

TO THE MAYOR AND MEMBERS OF CITY COUNCIL:

Villa Park Heights Water Company, formerly known as Parkcrest Water Company, Inc., which company operated a sewer lagoon serving certain multi-family houses and commercial establishments in Parkcrest Village, has petitioned the Public Service Commission requesting to withdraw from the business of providing sewer service within the City and to contribute to the City of Springfield or abandon all sewer facilities owned by it in the City of Springfield. The Public Service Commission entered an order on March 25, 1976, requesting that the City file an answer in the matter for purposes of determining whether or not the City of Springfield is ready, willing, and able to accept the contribution of a sewer property of Villa Park Heights Water Company and assume the rendering of sanitary sewage disposal services to the residences and businesses now served by the company.

After conferring with the City Manager, Don Busch, it was determined that this office should inform City Council of the history concerning the lagoon including previous action taken by the City. Previous review of this matter by the Public Works Director, Superintendent of Sanitary Services, City Manager, and City Attorney resulted in the conclusion that the City was not interested in taking over the legal responsibility for operating the lagoon. Unless the City Council members wish to further consider this matter after receiving this report, the Law Department will proceed at the direction of the City Manager to file an answer in the matter indicating that the City does not wish to accept the responsibilities of rendering sanitary sewage disposal on behalf of Villa Park Heights Water Company.

This report to City Council will not attempt to go into all of the details surrounding this particular matter but will generally point out the problems involved in the operation of the sewer services.

On September 22, 1972, the Missouri Public Service Commission in considering the Parkcrest Water Company's application to provide sewer service in this area entered an order requiring the Parkcrest Water Company to secure, within 60 days from the effective date of the order, operating permits in compliance with the requirements of the Missouri Clean Water Commission for all facilities in the certificated area.

On September 29, 1972, a report from James H. Williams, Chief Engineering Geological Section, Missouri Geological Survey, reported that the lagoon was constructed in an area where there were pinnacles of limestone and that the red clay soil and limestone are permeable. A copy of that report is attached hereto for the City Council information, which report shows substantial problems in the construction of the lagoon some of which continue to date.

On January 3, 1973, the City received a complaint from certain citizens concerning the operation of the lagoon. On March 16, 1976, Mr. Smith, as President of Villa Park Heights Water Company, was mailed an abatement order requiring that he cease violation of provisions of the Revised Missouri Statutes pertaining to Clean Water Commission laws. On March 18, 1976, Mr. Smith petitioned the Public Service Commission to abandon the facility or to contribute it to the City of Springfield, Missouri, a copy of which is attached hereto.

Due to the substantial violations of law which exist as a result of the operation of this particular facility, and in particular the geological formations existing in the area, it is the opinion of the Law Department that the City would not be well advised to consider taking over the operation of this particular facility. The facility should first be brought into compliance with Missouri Clean Water Commission's requirements before the City considers the matter. Otherwise, by taking over the operation of the facility, the City will bring itself within provisions of the Missouri Clean Water Commission law; and as the operator of the facility, the City would be subject to the penalties of this particular law. It would seem that after substantial review by the Public Works Department, the Law Department, and City Manager's office that all parties concur in the conclusion that the City should not at this time undertake to even consider the operation of this particular facility. The operator of a facility has certain duties under the Public Service Commission Law and under Clean Water Commission Law to provide service that meets the requirements of the State of Missouri. In reviewing the file, it is apparent that the operator of the facility has made very little effort to comply with Missouri Clean Water Commission Law; and now that he is under an abatement order, the operator seeks to shift his responsibilities for compliance from himself to the City. Due to the many projects funded by the Missouri Clean Water Commission, the City would be in a very difficult position to operate a facility which did not comply with Missouri Clean Water Commission Law.

If City Council members have any questions about this report, they should feel free to contact this office for additional information. Also, in the event the City Council wishes to consider this matter at a public hearing, the matter would have to considered on April 12, 1976, or at a special session of the City Council meeting since the Public Service Commission order requires the City to respond within 30 days from March 25, 1976. If no action is taken by the City Council to consider the matter, the Law Department will, of course, enter an appearance on behalf of the City and will indicate to the Public Service Commission

that the officials of the City, as set forth in reports contained herein, do not wish to consider accepting the contribution of the sewer property at this time. It would appear that before the City would consider accepting the responsibility to operate such a facility that the facility should be in compliance with the law.

Very truly yours,

Howard C. Wright, Jr.
City Attorney

HCW/dw

Attachments

cc: Don Busch, City Manager
David Snider, Director of Public Works
Robert Schaefer, Superintendent of Sanitary Services

ADDENDUM

ENGINEERING GEOLOGIC REPORT OF THE PARKCREST SHOPPING CENTER LAGOONS

Greene County, Missouri

LOCATION: SE¼ NE¼ NE¼ sec. 14, T. 28 N., R. 22 W., (Springfield Quadrangle)

GEOLOGIC SETTING:

The lagoons have been constructed in an area of stoney red clay where limestone is at shallow depths. Pinnacles of limestone were observed in portions of the lagoon prior to the filling of the lagoon. The red clay soil and the limestone are permeable. The cavernous condition of the limestone is illustrated by the fact that water flow has been traced from a sinkhole located at the eastern edge of the Parkcrest Shopping Center southwestward to a spring located in the NW¼ SE¼ SE¼ sec. 14, T. 28 N., R. 22 W., (Springfield Quadrangle). This is on a line almost directly under the Parkcrest lagoons.

The Parkcrest lagoons are in a losing stream valley just as is the nearby sinkhole. This valley here is typically expressed as a collapse valley from the result of solutioning of the underlying limestone. Thus, surface flow is lost almost immediately to the subsurface and thence to the groundwater aquifer in the limestone bedrock.

RECOMMENDATIONS:

Flow overtopping the lagoon dike, as observed on 26 September 1972, must be halted. This overflow remains as surface flow on the valley floor for only a few feet before being lost as the result of rapid seepage into the subsurface. Data on shallow groundwater tracing within the Springfield area indicates that groundwater at shallow depths within the near-surface limestone moves at an approximate rate equal to surface stream flow. Thus, it is expected that pollutants within the near-surface limestone, also move at an approximate rate equal to surface stream flow. Thus, it is anticipated that pollutants which enter this shallow groundwater supply, for example, springs or shallow cased wells, will move rapidly from the point of source to the point of discharge. Some of these pollutants will also affect deeper aquifers as shown by the problems of pollution extending to greater depths as within the area around the city of Springfield.

James H. Williams, Chief
Engineering Geology Section
Missouri Geological Survey
September 29, 1972

STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

At a Session of the Public Service Commission held at its office in Jefferson City on the 25th day of March, 1976.

CASE NO. 18,723

In the matter of the application of Villa Park Heights Water Company for authority to discontinue providing sewer service in Springfield, Greene County, Missouri, and to abandon certain of its sewer properties to the City of Springfield.

O R D E R

On March 18, 1976, the Villa Park Heights Water Company filed an application with the Commission seeking to withdraw from the business of providing sewer service within the City of Springfield and to contribute or abandon all sewer facilities owned by it in the City of Springfield.

The Commission is of the opinion that the City of Springfield is a necessary party in this matter and that the City should file an answer in this matter which should be directed, inter alia, to whether or not the City of Springfield is ready, willing and able to accept the contribution of the sewer properties in the City of Springfield of the Villa Park Heights Water Company and assume the rendering of sanitary sewerage disposal service to those residences and businesses in the City of Springfield now served by the Company.

It is, therefore,

ORDERED: 1. That the City of Springfield be, and it is, hereby directed to within thirty (30) days from the date of this Order file its answer to the attached application.

ORDERED: 2. That this Order shall become effective on the date hereof and the Secretary of the Commission shall serve a certified copy of same upon each party of record and an additional copy on all other interested persons.

BY THE COMMISSION

Robert L. Gilmore
Secretary

(S E A L)

Pierce, Chm., Fain, Sprague,
Jones and Mulvaney, CC., Concur.

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Mr. Richard Nichols, Director DATE March 18, 1976

DEPARTMENT Building Regulations Department

Re: Proposed Ice Cream Parlor
3825 South Campbell

Attached is an "Abatement Order" from the Missouri Clean Water Commission, Department of Natural Resources, which directs that no further loading be connected to the Parkcrest Village wastewater treatment facility. The permit for alterations at 3825 South Campbell should, therefore, be denied because adequate sewage facilities are not available.

RRS:cc
Attachment
ccs: Tom Smith
Louis Cowan
Howard Wright, City Attorney
Public Works File

SIGNED Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

3.100 Greene County
Parkcrest Subdivision

CERTIFIED MAIL

March 16, 1976

Mr. Tom Smith, President
Villa Park Heights Water Company
Route 4, Box 883
Springfield, MO 65802

Dear Mr. Smith:

ABATEMENT ORDER

Under the authority of Chapter 204 (copy enclosed) of the Revised Statutes of Missouri, you are hereby ordered to cease violation of Section 204.076 of the Revised Statutes of Missouri.

Section 204.076.1 was and is being violated by your failure to submit to this agency Engineering Reports as specified in the above referenced permit, Schedule of Compliance, Page 3, A.1 due September 1, 1975, and completed detailed engineering plans and specifications due February 1, 1976 or as specified in B of your Schedule of Compliance an Analysis Report due September 15, 1975, a completed Engineering Report due November 1, 1975, and completed detailed engineering plans and specifications for improved sewerage works by March 6, 1976. In addition, you have failed to submit quarterly monitoring reports as specified on Page 2 of the above referenced permit, the first report being due October 28, 1975.

On March 5, 1976, representatives of the Missouri Department of Natural Resources, Water Quality Program met with representatives of the Parkcrest Subdivision to discuss the above violations. It was determined on that date that a registered professional engineer would be obtained by March 12, 1976 to provide this agency with all necessary reports. Representatives of the Parkcrest Subdivision were informed that enforcement would be stayed pending notification that an engineer had been retained. As of this date, the required information has not been received.

In order to prevent the continued violation of 204.076.1, you are hereby ordered to submit the applicable information as required under NPDES permit number MO-0084964, and to cease additional connections to and additional loadings of the wastewater treatment facility serving the Parkcrest Subdivision until formal authorization is received from the Missouri Department of Natural Resources.

Pursuant to Section 204.056.3, you may appeal this order within 30 days. Failure to appeal within the time allowed will result in this order becoming final, and enforceable as provided by law.

Yours truly,

James L. Wilson, Director
Department of Natural Resources

JLW/SDT/pw

Enclosure

cc: Louis Cowan, Attorney
Howard C. Wright, Jr., Attorney
Bob Schaefer, City of Springfield
Bill Sankpill, Public Service Commission
John Nixon, Springfield Regional Office

Power Cost — 1500

Labor Cost — #3,752

Equipment Cost — #312

Replacement Cost — #175

TOTAL #5,739

Average usage 20,000gal/day

20,000gal/day X 365 — ~~3,208.60 cf/day~~

7.48gal/ccf

975,936ccf/year

59¢/ccf

COPY

EXHIBIT E

Wastewater Test Results

from

City of Springfield, Missouri

on

Raw Sewage Plant Effluent

WRIGHT & ASSOCIATES, INC.

ENGINEERS • CONSULTANTS • TESTING LABORATORIES
730 NORTH BENTON AVENUE SPRINGFIELD, MISSOURI 65802 PHONE 417/866-2741

Power Costs

/month

/year

Labor Costs 1 Mtenance 2hr/day

12hrs/wk X 52 wks/yr = 624 hrs

624 hrs X $4.81/hr X 1.25 = $3,752

$3,752/year

Equipment Costs

/truck (additional 5 miles/day)

5 X 6 X 52 X 20¢/mile

$312/year

Replacement Cost

Low Guess = $100

High Guess $250

Average cost $175/yr

OVER

LABORATORY ANALYSES _____ 19____

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	% Removal SS	% Removal BOD
11/5/74	Inf	1440	1230	6.41							99	≥98
	Eff	22	16	8.19								
11/6/74	Inf	1000	700	7.34							92	97
	Eff	32	56	8.73								
11/7/74	Inf	375	184	8.51							71	93
	Eff	26	54	—								
11/8/74	Inf	245	60	7.64							70	77
	Eff	57	102	8.92								
11/10/74	Inf	419	188	—							4	93
	Eff	30	180	9.03								
11/13/74	Inf	325	276	7.69							74	91
	Eff	30	72	9.12								
11/14/74	Inf	150	940	6.85								
11/15/74	Inf	810	830	7.36								
11/15/74	Inf	320	320	8.21								
11/19/74	Inf	260	112	7.25								
11/21/74	Inf	480	168	7.76								
11/22/74	Inf	363	340	7.79								
11/26/74	Inf	350	172	7.31								
11/27/74	Inf	395	208	7.15								
12/2/74	Inf	433	108	7.59								
12/3/74	Inf	506	384	7.53								
12/4/74	Inf	560	495	7.28							89	97
	Eff	19	52	7.54								
12/5/74	Inf	560	280	7.89							86	97
	Eff	16	40	7.70								

LABORATORY ANALYSES _____ 19___

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol coefficient)	% Limiting SS	% Limiting BOD
12/10	Inf	598	340	7.65							89	95
	Eff	29	38	–								
12/11	Inf	760	724	6.92							90	95
	Eff	37	74	7.60								
12/16	Inf	276	324	7.81							88	95
	Eff	14	36	7.60								
12/17	Inf	290	168	7.70							85	96
	Eff	13	26	7.64								
12/24	Inf	166	320	7.10							91	96
	Eff	7	30	7.50								
1/2/75	Inf	–	440	7.13							89	
	Eff	–	48	7.48								
1/10/75	Inf	320	308	7.00							94	97
	Eff	10	18	7.54								
1/20/75	Inf	483	356	8.13							96	98
	Eff	10	14	7.42								
1/27/75	Inf	245	180	7.49							70	84
	Eff	38	54	7.55								
								J Adams				

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PHONE 417/866-2741

LABORATORY ANALYSIS REPORT

CLIENT: Parkcrest Development Company DATE: 4/8/76
PROJECT: Parkcrest Treatment Plant Study
SAMPLES RECEIVED: 3/26/76 SAMPLES BY: DFS
SOURCE: No. 1 - aeration tank
No. 2 - clarifier effluent
No. 3 - first lagoon
No. 4 - pipe flow between lagoons 1 & 2

TEST	SAMPLE NO. 1	SAMPLE NO. 2	SAMPLE NO. 3	SAMPLE NO. 4
SETTLEABLE SOLIDS				
SUSPENDED SOLIDS	3700 mg/l	54 mg/l	88 mg/l	88 mg/l *
PH	7.3	7.1	7.9	50 mg/l ** 8.5
BOD		49.5 mg/l	57.15 mg/l	54.15 mg/l
RESIDUAL CHLORINE				
OIL AND GREASE				
FECAL COLIFORM		7800 col/100ml		403 col/100ml
DISSOLVED OXYGEN	0	0.3 mg/l		7.45 mg/l

REMARKS:
* with algae fully suspended
** after settling one hour

WRIGHT & ASSOCIATES, INC.
BY: Steven L. Brady
STEVEN L. BRADY, P.E

EXHIBIT D

Officials anxious to begin projects okayed by voters

By MIKE KELLEY
Staff Writer

Springfield Public Works Director Dave Snider, "elated" over the city's overwhelming victory on three bond issues and an annexation proposal, said today the city will begin an immediate search for a contractor to design improvements to the Grant and Benton Avenue viaducts.

Snider said he would present to City Council as soon as possible the choice of a consulting engineer and contract for up to $8.4 million in improvements, supported in yesterday's city-wide election by 74 per cent of the voters.

If the council approves of the choice, Snider said, it will take nine to 10 months to design the improvements, and a contract for job probably can be awarded by March of next year.

Work on other improvements authorized by yesterday's election also will begin soon.

Sanitary Services Director Bob Schaefer said a $27 million trunk sewer system construction job will begin this summer, with installation of the James River lift station and Wilson Creek trunk.

In the second year, he said, "we're talking about the James River interceptor and Ward Branch trunk sewer, and possibly the Lake Springfield - Sequiota trunk. That's now known as the Galloway trunk.

"Then in the third year," Schaefer said, "we'll have the Pearson Creek and airport trunk sewer system. If EPA (Environmental Protection Agency) money is available sooner we may do more in the first two years."

Mayor Payne: 'I was afraid everybody's mind would be clouded about all the noise that was made about utility rates.'

The Public Works Department also will begin surveying land in the newly annexed portion of the city's southwest side to purchase up to $125,000 in right-of-way for extension of Kansas Expressway south.

City Council will meet at 10 a.m. Thursday to canvass the election results and probably will also take up the appointment of someone to fill a vacancy from the northwest Zone 1. Jerry Slavens was the winner of a straw vote in that district yesterday, besting Judy Duncan, Floyd Gilzow and Jerry Keltner.

"I could not possibly be more pleased," said Mayor Jim Payne today. "I'm surprised at how well they (the annexation and bond issues) were supported. I was afraid everybody's mind would be clouded about all the noise that was made about the utility rates. Springfield voters have proved once again that if you get good issues on the ballot they will support the community."

Voter turnout of 11,230 termed 'light' compared to previous tallies when municipal money matters at stake.

The issues, and the unofficial results with all 67 city precincts and absentee votes counted:

—Annexation of 360 acres of land at the southwest corner of the city for extension of the Kansas Expressway south from Battlefield to Greene County M was approved 7649-3244.

The issue required only a simple majority but was approved by 70.2 per cent of the voters.

—Authorization for up to $8.4 million in bond sales for renovation and possible widening and straightening of the Grant and Benton Avenue viaducts passed 8264-2856, with 74.3 per cent approving. The general obligation bond issue needed 66.6 per cent in favor.

—Another general obligation bond issue for $2.7 million to match $24 million in state and federal funds for completion of the city's trunk sewer system was supported by 73.6 per cent of the voters, passing 8121-2920.

—A general obligation bond issue for up to $125,000 for purchase of right-of-way for the Kansas Expressway job passed 8255-2790, gaining the approval of 74.7 per cent.

A total of 11,230 persons went to the polls in the city yesterday, within City Clerk Don Kelley's estimate of 10,000 to 12,000 and well above the 8211 who turned out for last spring's councilmanic election. It was a light turnout, however. In June of 1974, 19,853 turned out to defeat an

See PROJECTS, Page 38

City Hall
830 Boonville Avenue
Springfield, Missouri 65802
417-865-1611

January 12, 1976

Missouri Clean Water Commission
1155 East Cherokee
Springfield, MO

RE: Parkcrest Development Company, Springfield, Missouri, Permit No. 0084964

Dear Mr. Sears:

This letter is to request Missouri Clean Water Commission take action against Mr. Smith for failing to comply with conditions set forth in Permit No. 0084964 by failing to file a plan to make provision for proper treatment of his sewage at his sewer lagoon serving parts of Parkcrest Village. It is obvious from Mr. Smith's letter that he has no intention of doing anything to correct the pollution which his lagoon is causing.

In addition, Mr. Snider reports to me in a letter attached hereto that substantial portions of Mr. Smith's letter dated December 3, 1975, are incorrect. A copy of Mr. Snider's response to this office is attached hereto for your information. Suffice it to say that the City of Springfield will not in the near future be able to serve Parkcrest Village through the Ward Branch sewer line. It is my understanding that construction of this particular project is at least five years away from being under contract and it could be as far as ten years depending upon availability of funds. Therefore, the hopes that the treatment plant will be served by the Ward Branch sewer line in the immediate future simply will not materialize within any reasonable period of time in order to be a solution to the serious pollution problem.

The City would propose that a lift station be constructed in this particular area by the property owners to pump the sewage to existing sewer lines. This lift station would provide an immediate remedy to correct the serious pollution problems. However, existing owners and operators of sewage treatment plants in the area will have very little incentive to cooperate with the City in the construction of such lift station until the Clean Water Commission begins to enforce their laws.

I am also writing the Public Service Commission to determine whether or not Mr. Smith has been certificated to operate a sewage treatment plant and to provide service to individual customers. I assume that he does and I understand the law is such that you cannot withdraw service once you have been certificated under public service commission laws. Therefore, Parkcrest Development Company has a duty to provide service to those areas where it is certificated until such time that reasonable provisions are made for the provision of such service.

As you know, the City of Springfield is anxious to work with the Clean Water Commission in correcting serious pollution problems in the City of Springfield and will endeavor to do so. We are, as you know, now proceeding with the filing of at least one law suit immediately against operation of one treatment facility by a private party which plant is not being properly operated. We would propose that the parties who are involved in this particular matter immediately confer about the operation of the sewer lagoon and that immediate provisions be made for the replacement of the lagoon by a lift station in order that the lagoon's use might be immediately abated. If reasonable provisions cannot be made for this, the City will seek remedies in Court to require compliance with the law. We propose that the Missouri Clean Water Commission establish an immediate date for discussion of this particular matter to determine whether or not the parties are willing to proceed with the construction of a lift station. If this alternative fails, it is difficult to imagine what other remedies are available short of legal action. Your immediate attention to this problem is appreciated.

Yours truly,

Howard C. Wright, Jr.
City Attorney

/jim

Attachments

cc: Tom Smith
David G. Snider, Director of Public Works

3.100 Greene County
Parkcrest Subdivision

CERTIFIED MAIL

March 16, 1976

Mr. Tom Smith, President
Villa Park Heights Water Company
Route 4, Box 883
Springfield, MO 65802

Dear Mr. Smith:

ABATEMENT ORDER

Under the authority of Chapter 204 (copy enclosed) of the Revised Statutes of Missouri, you are hereby ordered to cease violation of Section 204.076 of the Revised Statutes of Missouri.

Section 204.076.1 was and is being violated by your failure to submit to this agency Engineering Reports as specified in the above referenced permit, Schedule of Compliance, Page 3, A.1 due September 1, 1975, and completed detailed engineering plans and specifications due February 1, 1976 or as specified in B of your Schedule of Compliance an Analysis Report due September 15, 1975, a completed Engineering Report due November 1, 1975, and completed detailed engineering plans and specifications for improved sewerage works by March 6, 1976. In addition, you have failed to submit quarterly monitoring reports as specified on Page 2 of the above referenced permit, the first report being due October 28, 1975.

On March 5, 1976, representatives of the Missouri Department of Natural Resources, Water Quality Program met with representatives of the Parkcrest Subdivision to discuss the above violations. It was determined on that date that a registered professional engineer would be obtained by March 12, 1976 to provide this agency with all necessary reports. Representatives of the Parkcrest Subdivision were informed that enforcement would be stayed pending notification that an engineer had been retained. As of this date, the required information has not been received.

In order to prevent the continued violation of 204.076.1, you are hereby ordered to submit the applicable information as required under NPDES permit number MO-0084964, and to cease additional connections to and additional loadings of the wastewater treatment facility serving the Parkcrest Subdivision until formal authorization is received from the Missouri Department of Natural Resources.

Pursuant to Section 204.056.3, you may appeal this order within 30 days. Failure to appeal within the time allowed will result in this order becoming final, and enforceable as provided by law.

Yours truly,

James L. Wilson, Director
Department of Natural Resources

JLW/SDT/pw

Enclosure

cc: Louis Cowan, Attorney
Howard C. Wright, Jr., Attorney
Bob Schaefer, City of Springfield
Bill Sankpill, Public Service Commission
John Nixon, Springfield Regional Office

Park Crest Village

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Mr. Richard Nichols, Director DATE March 16, 1976

DEPARTMENT Building Regulations Department

Re: Proposed Ice Cream Parlor
3825 South Campbell

Attached is an "Abatement Order" from the Missouri Clean Water Commission, Department of Natural Resources, which directs that no further loading be connected to the Parkcrest Village wastewater treatment facility. The permit for alterations at 3825 South Campbell should, therefore, be denied because adequate sewage facilities are not available.

RRS:cc
Attachment
ccs: Tom Smith
Louis Cowan
Howard Wright, City Attorney
Public Works File ✓

SIGNED Robert R. Schaefer
Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

3.100 Greene County
Parkcrest Subdivision

CERTIFIED MAIL

March 16, 1976

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Villa Park Heights Water Company
Route 4, Box 883
Springfield, MO 65802

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Yours truly,

James L. Wilson, Director
Department of Natural Resources

JLW/SDT/pw

Enclosure

cc: Louis Cowan, Attorney
Howard C. Wright, Jr., Attorney
✓Bob Schaefer, City of Springfield
Bill Sankpill, Public Service Commission
John Nixon, Springfield Regional Office

March 26, 1976

Mr. Sam L. Wolfinbarger
Howard G. Moore Company, Inc.
2122 South Stewart
Springfield, MO 65804

Re: Elevations and location of manhole serving Parkcrest Village Shopping Center.

Dear Sam:

Attached to this letter is a sheet showing the location of the terminal manhole serving the Parkcrest Village Shopping Center. The elevation of the flow line into this manhole is 1250.99. The top of the manhole is at elevation 1259.24.

If you have any questions about the location and elevation of this manhole, please let me know.

Very truly yours,

Robert R. Schaefer

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

RRS/dw

Attachments

cc: Public Works

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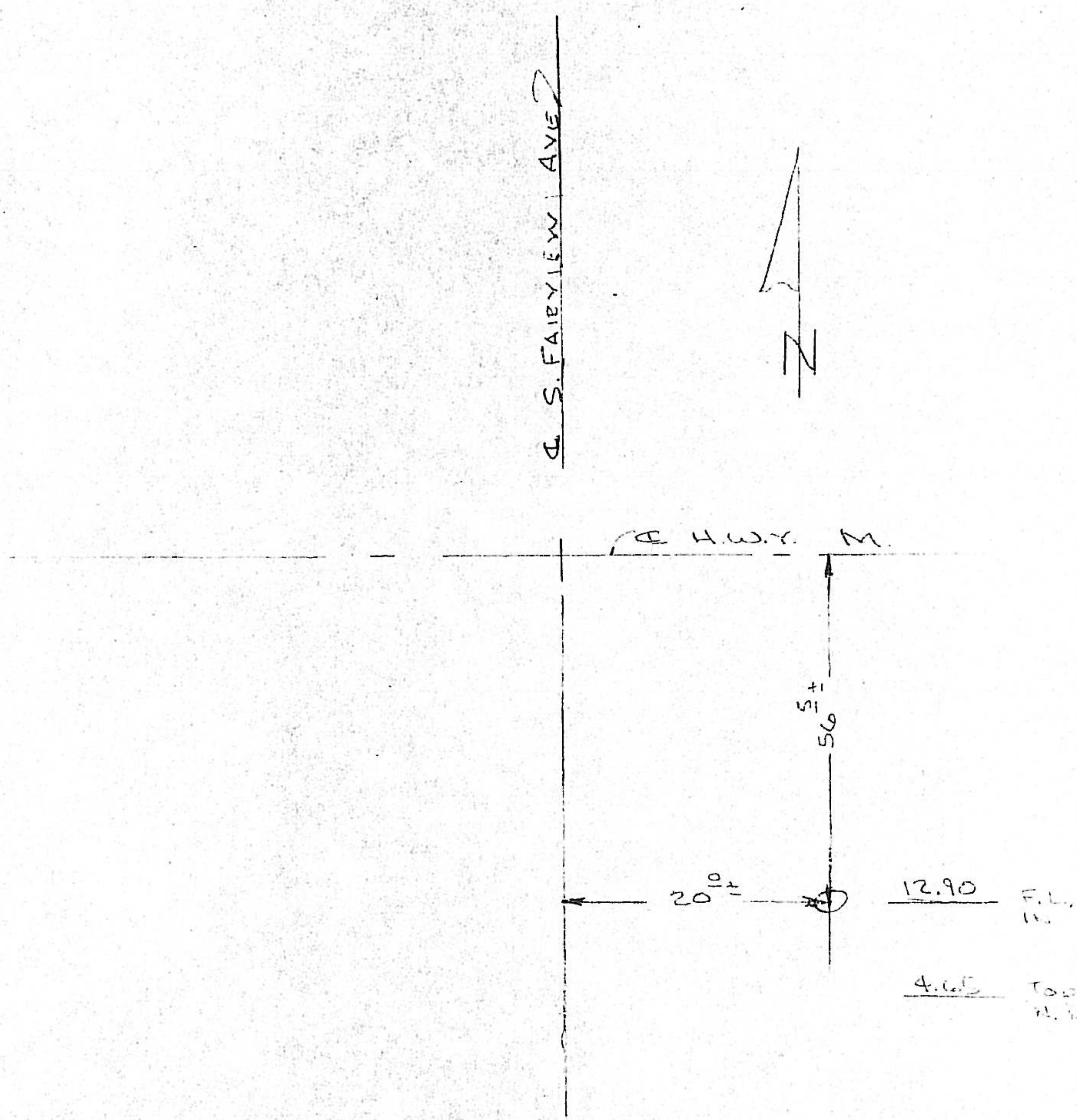
7-2 B.M.	6.08			1257.81	H.W.Y. M. E CAMPBELL ℄ Cut in Conc. Top Conc. Headwall of Culvert W. side Campbell [illegible] N. OF H.W.Y. M.



City Hall
830 Boonville Avenue
Springfield, Missouri 65802
417-865-1611

January 12, 1976

Missouri Clean Water Commission
1155 East Cherokee
Springfield, MO

RE: Parkcrest Development Company, Springfield, Missouri, Permit No. 0084964

Dear Mr. Sears:

This letter is to request Missouri Clean Water Commission take action against Mr. Smith for failing to comply with conditions set forth in Permit No. 0084964 by failing to file a plan to make provision for proper treatment of his sewage at his sewer lagoon serving parts of Parkcrest Village. It is obvious from Mr. Smith's letter that he has no intention of doing anything to correct the pollution which his lagoon is causing.

In addition, Mr. Snider reports to me in a letter attached hereto that substantial portions of Mr. Smith's letter dated December 3, 1975, are incorrect. A copy of Mr. Snider's response to this office is attached hereto for your information. Suffice it to say that the City of Springfield will not in the near future be able to serve Parkcrest Village through the Ward Branch sewer line. It is my understanding that construction of this particular project is at least five years away from being under contract and it could be as far as ten years depending upon availability of funds. Therefore, the hopes that the treatment plant will be served by the Ward Branch sewer line in the immediate future simply will not materialize within any reasonable period of time in order to be a solution to the serious pollution problem.

The City would propose that a lift station be constructed in this particular area by the property owners to pump the sewage to existing sewer lines. This lift station would provide an immediate remedy to correct the serious pollution problems. However, existing owners and operators of sewage treatment plants in the area will have very little incentive to cooperate with the City in the construction of such lift station until the Clean Water Commission begins to enforce their laws.

I am also writing the Public Service Commission to determine whether or not Mr. Smith has been certificated to operate a sewage treatment plant and to provide service to individual customers. I assume that he does and I understand the law is such that you cannot withdraw service once you have been certificated under public service commission laws. Therefore, Parkcrest Development Company has a duty to provide service to those areas where it is certificated until such time that reasonable provisions are made for the provision of such service.

As you know, the City of Springfield is anxious to work with the Clean Water Commission in correcting serious pollution problems in the City of Springfield and will endeavor to do so. We are, as you know, now proceeding with the filing of at least one law suit immediately against operation of one treatment facility by a private party which plant is not being properly operated. We would propose that the parties who are involved in this particular matter immediately confer about the operation of the sewer lagoon and that immediate provisions be made for the replacement of the lagoon by a lift station in order that the lagoon's use might be immediately abated. If reasonable provisions cannot be made for this, the City will seek remedies in Court to require compliance with the law. We propose that the Missouri Clean Water Commission establish an immediate date for discussion of this particular matter to determine whether or not the parties are willing to proceed with the construction of a lift station. If this alternative fails, it is difficult to imagine what other remedies are available short of legal action. Your immediate attention to this problem is appreciated.

Yours truly,

Howard C. Wright, Jr.
City Attorney

/jim

Attachments

cc: Tom Smith
David G. Snider, Director of Public Works

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Howard Wright, City Attornay DATE December 23, 1975

DEPARTMENT Legal

Re: Parkcrest Sewer Lagoon

On December 16, 1975, Mr. John Nixon of the Clean Water Commission wrote me a letter concerning what we were going to do about the Parkcrest Sewage Lagoon currently owned by Mr. Tom Smith. He attached to that letter a copy of a letter he had received from Tom Smith, dated December 2, 1975.

In my response to Mr. Nixon I told him we were taking this under advisement, but that there were certain discrepancies in Mr. Smith's letter of December 2. First of all, in his second paragraph, we have no idea when the Ward Branch Trunk Sewer will be under construction. The only dates that we have ever given have been four or five years from now, never within the next year.

In the third paragraph, he stated that he had advised you and myself about a Public Service Commission Engineering Report stating he did not have to operate the Sewer System. My files do not reflect notification nor do I ever remember being told that he had a report from the Public Service Commission relieving him of his responsibilities of operating his Sewer Lagoon. I do not know whether you have or not, but I certainly have not.

In the fourth paragraph, I am afraid he leaves the impression that we have assumed something and I am attaching a copy of my January 17, 1975, letter that he refers to and as he stated, I believe my letter is self-explanatory. I made it very plain that we were not operating this plant.

In the fifth paragraph, he says he agreed to let the City operate the Sewer Treatment Facility for a period of three years or until the Ward Branch Sewer Line was completed. We have never agreed to operate this Sewer Treatment Facility for any period of time, nor have we ever implied that we would operate this Sewage Treatment Plant. In fact, on numerous occasions, we have called Mr. Smith to advise him that the Sewage Lagoon was, in fact, malfunctioning.

It should be further noted that it is going to be some considerable length of time after the Ward Branch Sewer Line is completed before we will be able to extend joint district lines up to and include this particular area. As I am sure you are aware, once the trunk has been installed, all other sewer construction is dependent upon our tax bill method of financing.

I felt this clarification was necessary in order to make our position known.

DGS/ec
Attachment

SIGNED David G. Snider, Director of Public Works

January 17, 1975

Mr. James A. Burris
Regional Engineer
Missouri Clean Water Commission
1155 East Cherokee Street
Springfield, Missouri 65807

Dear Mr. Burris:

This is a status report concerning the small package plant and lagoon facilities located at the southwest corner of Campbell and Republic Road. This facility is owned and operated by Mr. Tom Smith.

After our meeting with you, our City Manager, our City Attorney and Mr. Smith and his attorney, the plant has had some adjustments made to it and some of the operating difficulties have been eliminated. We have provided some technical assistance and sampling at the plant and are certain that the plant is properly designed and properly sized. The plant is now achieving from 90% to 95% removals of BOD and 80% to 90% removals of suspended solids. We are continuing to monitor this facility and will continue to provide any technical assistance we can to Mr. Smith.

We have not taken this plant over, yet, for maintenance or operation. This requires Council action since it would expend monies not previously authorized. Mr. Bob Schaefer has the operation of this facility under advisement and hopefully within the next month he will have some more recommendations for the operation of this facility. In the meantime, we will continue to assist Mr. Smith in checking the plant's operation and collecting and analyzing plant samples but we are not operating nor have we assumed any ownership of this facility.

Very truly yours,

David G. Snider, P.E.
Director of Public Works

DGS/ec

cc: Don Busch, City Manager
Howard Wright, City Attorney

3.100 Greene County
Parkcrest Subdivision

March 9, 1976

Mr. Tom Smith, President
Villa Park Heights Water Company
Route 4, Box 883
Springfield, MO 65802

Dear Mr. Smith:

This letter is to confirm our meeting of March 5, 1976. The purpose of this meeting was to discuss the Parkcrest wastewater treatment facilities as it applies to your NPDES permit, MO-0084964, and to the interests of the City of Springfield. After a general discussion of your facilities, their loading, your permit and it's requirements, (specifically the Engineering Report due November 1, 1975 and the detailed plans due March 1, 1976), it was agreed by all present that you would obtain the services of a registered professional engineer to provide the aforementioned engineering report by March 12, 1976. I then stated that 30 days from that date should be sufficient time for your engineer to provide both this agency and the City of Springfield with the Engineering Report. Upon receipt of the Engineering Report, we will again meet, with all parties concerned, to discuss the contents of that report.

I will be looking forward to hearing from our Springfield Regional Office that they have received your Engineering Report on or before April 12, 1976.

Should you have any questions or comments, please advise.

Yours truly,

Steven D. Townley
Enforcement Officer
Water Quality Program

SDT/pw

cc: SRO, Attn: John Nixon
Howard C. Wright, Jr., Attorney
Bob Schaefer, City of Springfield
Lewis Cowan, Attorney
Bill Sandpill, Public Service Commission

March 10, 1976

Mr. Jim Sivils
Attorney at Law
1901-C East Bennett
Springfield, Missouri 65804

Mr. Louis Cowan
Attorney at Law
Woodruff Building
Springfield, Missouri 65806

Re: Parkcrest Sewer Lagoon

Gentlemen:

I am informed that the Missouri Clean Water Commission by and through its officers and agents will, in the event an agreement is not reached to resolve the matter concerning additional usage with respect to sewerage into the Parkcrest Sewer Lagoon on the terms heretofore suggested, issue an order requiring that no additional flowage be permitted into the lagoon above that which previously existed prior to the proposed ice cream facility.

I am writing the parties concerned so they will be informed that the City is still continuing to review the matter of whether or not a remodeling permit can be issued which is still subject to a determination as to whether or not there is adequate sewers. It would appear that if the Commission issues an order in accordance with the above, the City will have no alternative but to deny the permit since adequate sewers do not exist in the area. Alternatively, the applicant for the permit could consider other sewer facilities such as septic tanks and holding tanks but the feasibility of such has not yet been determined.

The City was interested, in order to be fair to all parties concerned, in pursuing the proposed agreement whereby the ice cream parlor was temporarily hooked into the lagoon subject to certain conditions being met by the operator of the lagoon. These conditions primarily involved at the outset an engineering study to determine what would be required to bring the lagoon into compliance with Clean Water Commission standards. Realizing that the parties would not be willing to commit themselves to bringing the lagoon into compliance at this time since such costs

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Bob Schaefer, Supt. of Sanitary Services DATE April 8, 1975

DEPARTMENT Public Works

Bob, why don't you go ahead and contact Mr. Smith concerning a possible "Monthly Maintenance Agreement" as per our conversation with Don. Once you have determined whether or not this is going to be possible we will then write our final report to Don. In the meantime, I will return your memorandum for safekeeping pending your conversation and outcome with Tom Smith.

DGS/ec
Attachment

SIGNED David G. Snider, Director of Public Wo

Springfield Regional Office, 1155 East Cherokee
Springfield, Missouri 65807

417 883-4033

3.100 Greene County
Parkcrest Subdivision

December 16, 1975

Mr. David Snider, P.E.
Director of Public Works
City Hall
830 Boonville
Springfield, Missouri 65802

Dear Mr. Snider:

We are enclosing herewith a copy of Mr. Tom Smith's letter to us dated December 2, 1975, concerning the sewage treatment plant and lagoon in Parkcrest Village.

This facility is currently in violation of the Schedule of Compliance as outlined in NPDES Permit No. MO-0084964, a copy of which was provided to the city.

Could you please advise us as to the city's current intentions regarding this facility?

Yours truly,

John R. Nixon, P.E.
Acting Regional Administrator
Springfield Regional Office
Department of Natural Resources

JRN:OM:cm

encl.

cc: Robert Schaefer, Sanitary Dept.
Howard Wright, City Attorney
Water Quality Program - Steve Townley
Water Quality Program

Park-Crest Development Co.

Developers of Beautiful Park-Crest Village

• Phone UN-2-2H6
869-1777

Campbell Street Road and M Highway
Springfield, Missouri

December 2, 1975

DEC 3 1975

Missouri Clean Water Commission
1155 East Cherokee
Springfield, Mo. 65807

Att: Ed Sears

Gentlemen:

Re: Park Crest Development Co.
Springfield, Missouri
Permit No. 0084964, Page 3 of 3

In regard to our telephone conversation last Thursday, I wish to make the following report.

We do not plan to do any work in any way, regarding the sewer treatment plant in Park Crest Village, as the City has already received a grant of $100,000 for engineering of the Ward Branch sewer line, which they hope to have under construction within the next year or so if funds are available.

The Public Service Commission engineering department notified us last year that we did not have to operate a sewer system inside the City of Springfield, as I told you in our conversation. At the time they notified us, we also notified Mr. Howard Wright, city attorney and Dave Snider of the public works department of the Public Service Commission's report.

Mr. Burris was in the regional office of the Missouri Clean Water Commission at the time, and we set up a meeting with the City Manager, City Attorney, Dave Snider, my attorney and myself at the conference room at the City Hall, when they agreed to help us get the plant balanced out and in operation. I am enclosing a copy of the letter dated January 17, 1975 from the City Hall in regard to our meeting at that time, which is self-explanatory.

We did agree to let the City continue to operate the sewer facilities at the same location for a period of three years or until Ward Branch sewer line was completed, so that the facilities could be connected to same.

To date the City has not taken over the plant, but have continued to run samples of the effluent once a week, or there about.

Yours truly,

Tom Scott

Park Crest Development Co.
Route # 4, Box 883
Springfield, Mo. 65802

Enc. 1

November 20, 1975

Mr. Dave Schneider
Sanitation Department
City Hall
830 Boonville
Springfield, Missouri 65802

PERSONAL CONFIDENTIAL

RE: Sewer problems -- Parkcrest area

Dear Mr. Schnieder:

About two weeks ago we discussed again the possibility of initiating a sewer district for the South Campbell area and I mentioned to you that we were interested in pursuing this on the basis of participation by us as well as other businesses along the right of way from Erie Street south to LaSalle Street. You indicated that nothing has been done in so far as implementing the program relative to Mr. Smith and at this point you were not proceeding further with the matter.

Since talking with you, I had occasion to visit with the superintendent of the Reliable Chevrolet job (DeWitt Construction Company) and learned that they are planning to put septic tank with lateral lines in, just one block north of us. I also find that Mr. Withers shopping center immediately north of their location is also on a septic tank.

I am at a loss to really understand why we were required by the City of Springfield to put in a holding tank and a great deal of expense as far as hauling off the water is concerned when other businesses that are going in along Campbell are able to get by with a septic tank and lateral lines. I would appreciate an answer to this question.

Also in talking with DeWitt's superintendent on the Reliable Chevrolet job, I was assured that they would much rather spend their money tying into a permanent sewer line than they would to spend $10,000 or more putting in a septic tank with lateral lines.

Dave, I would believe really if we put the package together which would not be too dificult we would have more than enough subscribe and guaranteed to take care of the $60,000 approximate installation cost of a sewer district to serve this area.

I would appreciate very much your pursuing this further in so far as requirements are concerned so that we can hopefully install our own septic tank so we have plenty of room for the lateral line on our property at Parkcrest Dental Group. I also would appreciate you pursuing the possibility of establishment of a sewer district as we had previously discussed utilizing funds from Reliable, Withers and others as well as ourselves to help fund this program as quickly as possible.

Would you please get back to me as soon as it is convenient?

Thank you very much.

Sincerely,

R. W. Bitter
President

RWB/jrs

CC: Dr. Roger Bright
Robert Schaefer

AgCon Co.

Plaza Towers, Suite 812
Glenstone & Sunshine
Springfield, Missouri 65804

U.S. POSTAL SERVICE MO 656
-PM
20 NOV
1970

PLEASE MAIL EARLY FOR CHRISTMAS
10

Sanitation Department
City Hall
830 Boonville
Springfield, Missouri

Attention: Robert Schaefer

November 7, 1975

Dr. and Mrs. John Franks
3549 South Broadway
Springfield, Missouri

Dear Dr. and Mrs. Franks:

I am sure that you are aware of discussions which have been generated during the last few months regarding the proposed installation of a storm sewer along Michigan Avenue in the Parkcrest and Village Green areas. There are a number of factors which must be considered in the development of a storm sewer district. The most important of these factors are (1) the amount of water flowing into the storm sewer and (2) the properties to be included in the district to help pay for the proposed project.

A detailed investigation of the area was performed in an effort to determine the properties which directly contribute to the storm water problem. It was determined that the land area occupied by the Village Green Swim Club is not a part of the Michigan - Sylvania water shed, but instead slopes in a southwesterly direction away from the abutting streets. Numerous residents in the area, however, have indicated that the pool is a major contribution of water flowing down Michigan Avenue.

Upon further investigation, two distinct problems were discovered which we feel need to be corrected. The Springfield Plumbing Code and Chapter 30 of the Springfield City Code (sewers and sewage disposal) specifically prohibit the backwash from swimming pools being discharged into the storm sewer system. It was noted that the backwash from the Village Green pool is now discharging into the street in the vicinity of the Katella - Broadway intereection. This backwash should be discharged into an approved sewage disposal system.

The second problem which was observed is one of the draining of the swimming pool at various times. The water from this type of discharge should go to the storm water system but at the present time is being pumped to another water shed other than the one in which the property is located. This is a direct violation of Missouri Drainage Law and should be corrected.

If these problems are not corrected then, at a minimum, it would be necessary to include the Village Green Swim Club area in the proposed storm sewer district in order to share in the cost of the project. It is also possible that the above mentioned violations could result in some type of punitive action.

I would like to arrange a meeting between you, Bob Schaefer, Superintendent of Sanitary Services, and myself so that we might discuss possible corrective measures on the above mentioned problems. Would you please contact me at your earliest convenience so that this meeting may be arranged. Thank you for your cooperation.

Very truly yours,

Wallace J. Munden
Principal Civil Engineer

WJM/sp

CC: Bob Schaefer

INTER-OFFICE MEMORANDUM

ATTENTION OF Don Busch, City Manager DATE October 17, 1974

DEPARTMENT

You will recall I mentioned to you a couple of weeks ago that Councilman Blume had contacted me about the problem we were having with the Parkcrest Lagoon just south of him and west of Campbell, owned by Mr. Tom Smith.

The situation as it now stands is that Mr. Schaeffer has had two meetings with Mr. Smith and representatives of the Clean Water Commission. We now make daily inspections of the lagoon and last week Mr. Schaeffer again wrote Mr. Smith offering any technical assistance that the City could provide.

What this amounts to is that the lagoon is no better, it is not operating properly, it is not being maintained properly and the odors out there are just unreal. I will admit that the odors are not constant all the time and they seem always to get worse on weekends.

Mr. Blume has advised me that the people are considering a class action suit and I know I don't want to be a part of one of those and I am sincerely concerned that if this would happen that Mr. Smith will cease doing everything and just turn the problem over to his attorneys. I may be wrong in this assumption but from Mr. Schaeffer's conversation with Mr. Smith it is about the only conclusion that we could come up with.

We have done everything short of maintaining the system ourselves but it is apparent that much stronger action will have to be taken on the City's part. Our concern is, of course, how far we can go and still keep the system going; but, the mere asking of the individual to do something is not sufficient.

I would appreciate discussing this with you as I understand you may know this gentleman; I have never had the opportunity to make his acquaintance.

DGS/ec

SIGNED David G. Snider, Director of Public Works

October 7, 1974

Mr. Thomas B. Smith
Parkcrest Development Company
RR4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

This letter is to confirm our telephone conversation on October 3, 1974, concerning the Parkcrest Subdivision sewage treatment facility. As I stated, the City has again received complaints from citizens living near this facility that obnoxious odors are being caused by the package treatment plant and lagoon. Water Pollution Inspectors in my office have also noted these odors when they have visited the site in recent weeks.

The Missouri Clean Water Commission has recommended that you place a person in charge of the maintenance and operation of the plant who has been trained in this work. They have also recommended that daily laboratory analyses be made in order to operate the plant efficiently. If these recommendations are followed, the odor problems which the treatment facility is now causing should be eliminated.

The Missouri Clean Water Commission has offered to advise the person placed in charge of the treatment facility in the proper laboratory analyses and operation and maintenance of the treatment plant. I am also offering the services of our treatment plant operations and laboratory personnel to assist you in any way possible to correct the existing problems in the plant's operation.

I am sure you are anxious to correct the odor problems so that the nearby residents are no longer bothered. It is hoped that as the plant operational problems are eliminated the odor problems are corrected. If we can be of any assistance, please let me know.

Sincerely,

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

RRS:cc

cc: David G. Snider, Director of Public Works
Jim Burris, Regional Engineer, Missouri Clean Water Commission

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Mr. Robert R. Schaefer, P.E. DATE August 28, 1974

DEPARTMENT Superintendent of Sanitary Services

Re: Parkcrest Treatment Plant

Upon inspection of the Park Crest Package Extended Aeration Facility August 27, 1974, the following problems were found:

1. The skimmer was not in operation and substantial solids buildup was present.

2. The intake bar screen was clogged with debris and was causing some backup in the inlet pipe.

3. The final clarifiers were almost totally clogged with solids to the point that flow was discharging at only two or three points.

4. Solids buildup was so prevalent that septic conditions exist.

5. Very significant odor could be detected for some distance from the facility.

JRL:cc

SIGNED J. Randall Lyman
J. Randall Lyman
Water Pollution Control Inspector

August 28, 1974

Mr. Arthur W. Blume
642 West Sylvania
Springfield, Missouri

Dear Mr. Blume:

This is with reference to our conversation, last Monday night, concerning the problems with the Park Crest Lagoon owned by Mr. Tom Smith.

I have asked Mr. Schaefer to report to me on the status of this particular problem and I have attached a copy of his report for your information. I might add that there will be a meeting between Mr. Smith, Mr. Burris and Mr. Schaefer this Friday concerning this lagoon and after a field investigation, yesterday, I can assure you we are going to hold a firm position to insure that compliance is begun to alleviate the odors being experienced and to make this lagoon a workable facility.

It is also our understanding that the Clean Water Commission is very concerned about this problem; so, we anticipate further cooperation on their part also.

We will be keeping Mr. Busch current on the status of this situation so that he will be knowledgeable of the progress being taken to alleviate this problem.

You also asked about the new Dental Clinic on Campbell just south of the shopping center. The plans as finally approved provide that the Dental Clinic will discharge all sewage into a closed container and that it will be, then, periodically pumped from this container by a septic tank company and taken to the Northwest Sewage Treatment Plant for disposal. It will not discharge into the lagoon or to any other area but will be contained on the property. Eventually, it will, of course, tie into our sewer system and in this area this is the Ward Branch Trunk Line.

If you have any further questions, we will, of course, be happy to provide the answers concerning this or any other subject you may desire.

Very truly yours,

David G. Snider, P.E.
Director of Public Works

DGS/ec
Attachment

cc: Don Busch
City Manager

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Howard Wright, City Attornay DATE December 23, 1975

DEPARTMENT Legal

Re: Parkcrest Sewer Lagoon

On December 16, 1975, Mr. John Nixon of the Clean Water Commission wrote me a letter concerning what we were going to do about the Parkcrest Sewage Lagoon currently owned by Mr. Tom Smith. He attached to that letter a copy of a letter he had received from Tom Smith, dated December 2, 1975.

In my response to Mr. Nixon I told him we were taking this under advisement, but that there were certain discrepancies in Mr. Smith's letter of December 2. First of all, in his second paragraph, we have no idea when the Ward Branch Trunk Sewer will be under construction. The only dates that we have ever given have been four or five years from now, never within the next year.

In the third paragraph, he stated that he had advised you and myself about a Public Service Commission Engineering Report stating he did not have to operate the Sewer System. My files do not reflect notification nor do I ever remember being told that he had a report from the Public Service Commission relieving him of his responsibilities of operating his Sewer Lagoon. I do not know whether you have or not, but I certainly have not.

In the fourth paragraph, I am afraid he leaves the impression that we have assumed something and I am attaching a copy of my January 17, 1975, letter that he refers to and as he stated, I believe my letter is self-explanatory. I made it very plain that we were not operating this plant.

In the fifth paragraph, he says he agreed to let the City operate the Sewer Treatment Facility for a period of three years or until the Ward Branch Sewer Line was completed. We have never agreed to operate this Sewer Treatment Facility for any period of time, nor have we ever implied that we would operate this Sewage Treatment Plant. In fact, on numerous occasions, we have called Mr. Smith to advise him that the Sewage Lagoon was, in fact, malfunctioning.

It should be further noted that it is going to be some considerable length of time after the Ward Branch Sewer Line is completed before we will be able to extend joint district lines up to and include this particular area. As I am sure you are aware, once the trunk has been installed, all other sewer construction is dependent upon our tax bill method of financing.

I felt this clarification was necessary in order to make our position known.

DGS/ec
Attachment

SIGNED David G. Snider, Director of Public Works

January 17, 1975

Mr. James A. Burris
Regional Engineer
Missouri Clean Water Commission
1155 East Cherokee Street
Springfield, Missouri 65807

Dear Mr. Burris:

This is a status report concerning the small package plant and lagoon facilities located at the southwest corner of Campbell and Republic Road. This facility is owned and operated by Mr. Tom Smith.

After our meeting with you, our City Manager, our City Attorney and Mr. Smith and his attorney, the plant has had some adjustments made to it and some of the operating difficulties have been eliminated. We have provided some technical assistance and sampling at the plant and are certain that the plant is properly designed and properly sized. The plant is now achieving from 90% to 95% removals of BOD and 80% to 90% removals of suspended solids. We are continuing to monitor this facility and will continue to provide any technical assistance we can to Mr. Smith.

We have not taken this plant over, yet, for maintenance or operation. This requires Council action since it would expend monies not previously authorized. Mr. Bob Schaefer has the operation of this facility under advisement and hopefully within the next month he will have some more recommendations for the operation of this facility. In the meantime, we will continue to assist Mr. Smith in checking the plant's operation and collecting and analyzing plant samples but we are not operating nor have we assumed any ownership of this facility.

Very truly yours,

David G. Snider, P.E.
Director of Public Works

DGS/ec

cc: Don Busch, City Manager
Howard Wright, City Attorney
David Snider 1/20/75

Note: I have written this letter to Jim Burris because the word is out from Mr. Smith that this is our facility now. I thought it best that we made our position clear while we are still formulating our recommendations for you concerning this plant.

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Don Busch, City Manager DATE March 29, 1976

DEPARTMENT

Re: Park Crest Storm Sewer

Late Friday Night a proponent for the storm sewer district out in Park Crest called and brought to my attention what I feel is to be a very important point. He asked the following question, "Isn't it true if this Council Bill fails we still have an approved storm sewer district for this area"?

In reviewing the Council Bill his statement is accurate, all the Council Bill tonight will do if defeated is not allow us to expand the district or to expand our original storm sewer. Therefore, the storm sewer district originally passed by Council and the storm sewer we originally proposed is still on the books and technically we could continue its development. I believe that the Council should be advised of this becuase I do not want any confusion arising out of what is being proposed.

If tonight's Council Bill is approved there will be no problem, if it is defeated, I feel Public Works should have direction from Council as to whether or not we should go forward with the original district as previously approved.

DGS/ec
cc: Howard Wright

SIGNED David G. Snider, Director of Public Works

40
750/30000
3000

40
3.4
13.60
14.10

60
50
3000

1) Develop area which can be served by lift station.
2) Estimate costs of lift station, force main & gravity sewer. (const, right of way)

Meridith Turner is Bitter's attorney

Give Mr Bitter about procedure
what City will do
what Commercial & Residential people should do.
Ag Con
881-7609
887-2944

Tom Smith
869-1777

Park Crest Treatment Facility

3 visits/wk @ 1 hr/visit @ $4.81/hr = 14.43/wk
3 visits/wk @ 10 miles/visit @ 25¢/mile = 7.50/wk

280 D analyses/wk @ 1 hr/analyses @ $5.53/hr = 11.06/wk
25 S analyses/wk

1 tank truck pu/mo @ 2 hrs/visit @ 3.95 = ~~7.90/mo~~ 1.97/wk
1 tank truck/mo @ 10 miles/visit @ 25¢/mile = ~~2.50/mo~~ .62/wk

Fringe Benefits
$(14.43 + 11.06 + \frac{7.90}{4}) \times .25 =$ 6.87

42.45/wk

$(42.45) 52 =$ 2,207.40/yr
$2,207.40 \div 12 =$ $183.95/month

Tom will call next week Mon or Tues.

Mr Butler
Park Crest Dental Clinic

Park Crest Treatment Facility

Minimum

July 1974	78 -	2.99
Aug	1680	32.28
Sept	2178	44.08
Oct	2170	44.80
Nov	2248	46.31
Dec	3200	66.06
Jan	4696	92.68
Feb	4518 —	116.40
Mar	2750 —	72.55 + tax

meter # 31358

Set aug 1973 - Location - S. of pole (line)

Park Crest
Rt 4
Box 883
[illegible]

Development Co. Inc

Elec

4305
S. Campbell Gen. Superv. no
(power hp)
455-2800

Bob:

Regarding TSTP in Parkcrest

pages 6 + 7 only pertain.

Randy

M I S S O U R I
CHRISTOPHER S. BOND
GOVERNOR

DEPARTMENT OF
Natural Resources
JAMES L. WILSON
DIRECTOR

Kenneth M. Karch, Director
Division of Environmental Quality

P.O. Box 176 Jefferson City, Missouri 65101 314-751-3241

PUBLIC NOTICE
APPLICATION FOR NPDES AUTHORIZATION TO DISCHARGE

DATE: February 21, 1975

In accordance with the National Pollutant Discharge Elimination System, the applicants listed herein have applied for an authorization to discharge to waters of the State. The proposed permits pending for these discharges are consistent with applicable water quality standards, effluent standards and/or treatment requirements, or suitable timetables to meet these requirements.

On the basis of preliminary staff review and application of lawful standards and regulations, the Missouri Clean Water Commission, proposes to issue a permit(s) to discharge, subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative. Persons wishing to comment upon or object to the proposed determinations are invited to submit them in writing to: Department of Natural Resources, Division of Environmental Quality, (Missouri Clean Water Commission), P. O. Box 1368, 1014 Madison, Jefferson City, Missouri 65101 Attention: Ken Arnold. Please reference all comments to the applicable application number.

All comments received prior to March 23, 1975, will be considered in the formulation of final determinations regarding the applications. If response to this notice indicates significant public interest, public hearings may be held after due notice. Public Hearings and/or issuance of the NPDES permit will be processed according to CWC R-8, June 29, 1974. Copies of all draft permits, comments and other information are available for inspection and copying at the Department of Natural Resources, Division of Environmental Quality, (Missouri Clean Water Commission), P. O. Box 1368, 1014 Madison, Jefferson City, Missouri 65101, and at the Regional Office which recommended the permit conditions, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Regional Offices are as follows:

St. Louis Regional Office
8460 Watson Road
St. Louis, Missouri 63119
314-849-1313

Kansas City Regional Office
615 East 13th Street
Kansas City, Missouri 64106
816-274-6675

Springfield Regional Office
1155 East Cherokee
Springfield, Missouri 65807
417-883-4033

Poplar Bluff Regional Office
946 Lester Street
Poplar Bluff, Missouri 63901
314-785-9460

Macon Regional Office
231 North Rollins, P. O. Box 489
Macon, Missouri 63552
816-385-2129

Jefferson City Regional Office
1014 Madison Street, P. O. Box 1368
Jefferson City, Missouri 65101
314-751-3241

APPLICANT INFORMATION

Application No. MO-0082121, Hickory Hill Estates and Temple Terrace, Rt. 2, California, Missouri, 65108, owned by Hickory Hills Water & Sewer Co., Inc., Rt. 2, California, Missouri 65108, has applied to discharge to a Tributary to North Moreau, at NE¼, Sec. 30, T45, R15, Moniteau County, Missouri, on Rt. 50 approximately 2 miles west of California, wastewater resulting from a subdivision. The discharge is an existing discharge with a design flow of 16,400 gal/day. The proposed permit terms and conditions, prepared by the Jefferson City Regional Office are as follows:

	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
	Interim Limitations	Interim Limitations	Final Limitations		
Effective Date	Issuance	8-1-75	6-1-77		
Outfall Number and Effluent Parameter(s)	Daily Average	Daily Average	Daily Average	Measurement Frequency	Sample Type
Outfall #001					
Flow-m^3/Day (MGD)	N/A	*	N/A	once/3months	N/A
Biochemical Oxygen Demand	N/A	*	30 mg/1	once/3months	grab
Suspended Solids	N/A	*	30 mg/1	once/3months	grab
Fecal Coliform- (organisms/100 ml)	N/A	*	200/100 ml	once/3months	grab
pH-Units	N/A	*	6.0-9.0	once/3months	grab
Dissolved Oxygen	N/A	*	**	once/3months	grab
Temperature	N/A	N/A	N/A	once/3months	grab

* Effluent limits during this period will be the average values obtained during the previous monitoring period.

** The minimum level of dissolved oxygen shall be 80% saturation or 6.0 mg/1, whichever is least.

PROPOSED SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

1. Submit a report with an analysis of actual sampling data demonstrating that present treatment meets the final effluent limitations by June 1, 1976, OR

2. If sampling data indicates an inability to meet the final effluent limitations, initiate action to achieve the effluent limitations in accordance with the following schedule:

   (a) Completion of engineering report for improved sewage works by August 1, 1976
   (b) Completion of detailed engineering plans and specifications by December 1, 1976
   (c) Completion of construction of sewage works improvement by April 1, 1977
   (d) Achieve compliance with final effluent limitations by July 1, 1977

3. The above plans and specifications must be approved by the Clean Water Commission before start of construction.

4. Permittee shall comply with the Missouri Clean Water Commission Report on Investigation dated July 17, 1974 by June 1, 1975.

APPLICANT INFORMATION

Application No. MO-0084956, Eldon Junior High School, East of Rt. CC, 1/8 mile north of city limits, Eldon, Missouri 65026, owned by Eldon Administrative Unit R-1, 110 S. Oak, Eldon, Missouri 65026, has applied to discharge to an unnamed branch to Blythes Creek, at SW¼, SE¼, Sec. 28, T42N, R15W, Miller County, Missouri, East of Rt. CC, 1/8 mile north of city limits, wastewater resulting from a school. The discharge is a proposed discharge with a design flow of 11,000 gal/day. The proposed permit terms and conditions, prepared by the Jefferson City Regional Office are as follows:

	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
	Interim Limitations	Interim Limitations	Final Limitations		
Effective Date			Issuance		
Outfall Number and Effluent Parameter(s)			Daily Average	Measurement Frequency	Sample Type
Outfall #001					
Flow-m^3/Day (MGD)			N/A	once/month	N/A
Biochemical Oxygen Demand			30 mg/1	once/quarter	grab
Suspended Solids			30 mg/1	once/quarter	grab
Fecal Coliform-(organisms/100 ml)			200	once/quarter	grab
pH-Units			6.0-9.0	once/quarter	grab
Dissolved Oxygen			*	once/quarter	grab

* Dissolved oxygen shall be maintained at a level equal to or above 6.0 mg/1, or 80% saturation whichever is least.

February 21, 1975

APPLICANT INFORMATION

Application No. MO-0084930, Meramec Heights Apartments, Jefferson County, Missouri, owned by Mr. Eldon Williams, Elflo Corporation, Rt. 2, Box 729, Arnold, Missouri 63010, has applied to discharge to the Romaine Creek, at SE¼, NW¼, NE¼, Sec. 22, T43N, R5E, Jefferson County, Missouri, West of Highway 21, approximately ¼ mile north of Konert Road, Jefferson County, Missouri, wastewater resulting from - 40 - 2 bedroom apartments. The discharge is an existing discharge with a present flow of 9,000 gal/day and a design flow of 9,000 gal/day. The proposed permit terms and conditions, prepared by the St. Louis Regional Office are as follows:

	PROPOSED EFFLUENT LIMITATIONS			PROPOSED MONITORING REQUIREMENTS	
	Interim Limitations	Interim Limitations	Final Limitations		
Effective Date			Issuance		
Outfall Number and Effluent Parameter(s)			Daily Average	Measurement Frequency	Sample Type
Outfall #001					
Flow-m^3/Day (MGD)			N/A	once/3months	N/A
Biochemical Oxygen Demand			30 mg/1	once/3months	grab
Suspended Solids			30 mg/1	once/3months	grab
Fecal Coliform- (organisms/100 ml)			200	once/3months	grab
pH-Units (Not to be averaged)			6.0-9.0	once/3months	grab
Dissolved Oxygen *			**	once/3months	grab
Temperature *			N/A	once/3months	grab

* Test procedures for these parameters will be by methods approved by the Missouri Clean Water Commission prior to sampling.

** Dissolved oxygen shall be maintained at a level equal to or above 6.0 mg/1, or 80% of saturation whichever is least.

PROPOSED SCHEDULE OF COMPLIANCE

A. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

1. Permittee is to abandon the treatment facilities described hereon and shall connect the tributary waste load to trunk sewers within 180 days of notice of availability if trunk sewers operated by one of the authorities outlined in Sec. VI, Subsections 6.01 A, B, or C of Clean Water Commission Regulation 5 are made available to the site during the time a valid discharge permit exists.

APPLICANT INFORMATION

Application No. MO-0084964, Park Crest Development Co., Inc. Rt. 4, Box 883, Springfield, Missouri, 65802, owned by Tom Smith, Rt. 4, Box 883, Springfield, Missouri, 65802, has applied to discharge to Ward Branch, at NE¼, NE¼, Sec. 14, T28N, R22W, Greene County, Missouri, on the southwest corner of the Jct. of Highway 160 and County Road M, wastewater resulting from a subdevelopment. The discharge is an existing discharge with a present flow of 24,000 gal/day and a design flow of 30,000 gal/day. The proposed permit terms and conditions, prepared by the Springfield Regional Office are as follows:

	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
	Interim Limitations	Interim Limitations	Final Limitations		
Effective Date	Issuance	8-1-75	5-1-77		
Outfall Number and Effluent Parameter(s)	Daily Average	Daily Average	Daily Average	Measurement Frequency	Sample Type
Outfall #001			Primary (1)		
Flow-m^3/Day (MGD)	N/A	*	None	once/3months	
Biochemical Oxygen Demand	N/A	*	This will be a	once/3months	grab
Suspended Solids	N/A	*	no dis-	once/3months	grab
Fecal Coliform-organisms/100 ml	N/A	*	charge facility.	once/3months	grab
pH-Units (Not to be averaged)	N/A	*		once/3months	grab
Outfall #001			Alternate (1)		
Flow-m^3/Day (MGD)			N/A	once/3months	
Biochemical Oxygen Demand			5 mg/1	once/3months	grab
Suspended Solids			10 mg/1	once/3months	grab
Fecal Coliform-organisms/100 ml			200	once/3months	grab
pH-Units (Not to be averaged)			6.0-9.0	once/3months	grab
Dissolved Oxygen			**	once/3months	grab

(1) For explanation - See Schedule of Compliance on page 3 of 3

* Effluent limits during this period will be the average values obtained during the previous monitoring period.

** The discharge shall contain a minimum level of dissolved oxygen of 80% of saturation or 6.0 mg/1 whichever is least.

PROPOSED SCHEDULE OF COMPLIANCE

A. The permittee shall achieve compliance with the primary final effluent limitations specified in accordance with the following schedule:

1. Completion of engineering report for sewage works providing effluent elimination by September 1, 1975 .
2. Completion of detailed engineering plans and specifications by February 1, 1976.
3. Completion of construction of sewage works providing effluent elimination by April 1, 1977.
4. Achieve compliance with primary final effluent limitations specified by May 1, 1977.

OR

(Continued on next page)

ruary 21, 1975

APPLICANT INFORMATION

Application No. MO-0084948, Platte County Sewer District No. 19, 2-1/2 miles N.E. of Parkville and 1/4 mile South of Highway 45, owned by Platte County Court, P. O. Box 425, Platte City, Missouri 64079, has applied to discharge to an unnamed stream to Rush Creek, at SW 1/4, SE 1/4, Sec. 20, T51N, R34W, Platte County, Missouri, wastewater resulting from a subdivision. The discharge is a proposed discharge with a design flow of 83,700 gal/day. The proposed permit terms and conditions, prepared by the Kansas City Regional Office are as follows:

	PROPOSED EFFLUENT LIMITATIONS			PROPOSED MONITORING REQUIREMENTS	
	Interim Limitations	Interim Limitations	Final Limitations		
Effective Date			Issuance		
Outfall Number and Effluent Parameter(s)			Daily Average	Measurement Frequency	Sample Type
Outfall #001					
Flow-m^3/Day (MGD)			N/A	once each weekday	N/A
Biochemical Oxygen Demand			30 mg/1	once/month	24 hr. con
Suspended Solids			30 mg/1	once/month	24 hr. con
Fecal Coliform-organisms/100 ml			200	once/month	grab
pH - Units (Not to be averaged)			6.0 - 9.0	once/month	grab
Dissolved Oxygen			*	once/month	grab
Temperature			N/A	once/month	grab

* Dissolved oxygen shall be maintained at a level equal to or above 6.0 mg/1, or 80% of saturation whichever is less.

PROPOSED SCHEDULE OF COMPLIANCE

Not applicable.

PROPOSED SCHEDULE OF COMPLIANCE (continued)

B. If data presented in the engineering report for sewage works providing effluent elimination clearly demonstrates that compliance with the primary final effluent limitations specified is not feasible, and if the Missouri Clean Water Commission determines that such compliance is not feasible, the permittee shall achieve compliance with the alternate final limitations specified in accordance with the following schedule:

1. Submit a report with an analysis of actual sampling data demonstrating that present treatment meets the final effluent limitations specified by September 15, 1975.

   OR

2. If sampling data indicates an inability to meet the final effluent limitations specified, initiate action in accordance with the following schedule:

   (a) Completion of engineering report for improved sewage works by November 1, 1975.
   (b) Completion of detailed engineering plans and specifications for improved sewage works by March 1, 1976.
   (c) Completion of construction of sewage works March 1, 1977.
   (d) Achieve compliance with alternate final effluent limitations specified by May 1, 1977.

State of Missouri
Department of
Natural Resources
Division of Environmental Quality

P. O. Box 1368

Jefferson City, Missouri 65101 (314) 751-3241

HARRY CRISWELL
SANITARY ENGINEER
CITY OF SPRINGFIELD
830 BOONVILLE AVENUE
SPRINGFIELD, MISSOURI 65802

PUBLIC NOTICE

Attn: Harry Crowell

LABORATORY ANALYSES

December 19 74

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	Attitudes	BOD Removal	SS Removal
12/10	Influent	598	340	7.65								95%	89%
	Effluent	29	38	–									
	ML		2600		SVI = 100						26		
	Return		3120		SVI =	90					28		
12/11	Influent	760	724	6.92									
	Effluent	37	74	7.60								95	90
	ML		3030		SVI=	119					36		
	Return		3050		SVI=	121					37		
12/16	Influent	276	224	7.81									
	Effluent	14	26	7.60								95	88
	ML		3130		SVI=	125				J. Adams	39		
	Return		4410		SVI =	107					47		
12/17	2nd	290	168	7.22									
	Eff	13	26	7.64								96	85
	ML		3230		SVI	= 121					39		
	Return		6640		SVI	= 98					26		
12/18	2nd	1666	350	7.1									
	Eff	7	30	7.5								96	91
	ML		4,100		SVI = 178								
	Return		6,750		SVI = 144								
12/19	2nd		440	7.13									
	Eff		48	7.48									89

LABORATORY ANALYSES — November 1974

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	BOD% removals	SS% removals
11/7	Influent	375	184	8.51								
	Lag Eff	26	54	–							93	71
11/8	Influent	245	60	7.64								
	Lag Eff	57	102	8.92							77	—
11/12	Influent	419	188	–								
	Lag Eff	30	180	9.03							93	
11/13	Influent	325	276	7.69								
	Lag Eff	30	72	9.12							91%	74%
11/14	Influent	150	940	6.85								
11/15	Influent	810	830	7.36								
11/18	Influent	220	320	8.21								
11/19	"	260	112	7.25								
11/21	"	480	168	7.76								
11/22	"	363	340	7.79								
11/26	"	350	172	7.31								
11/27	"	395	208	7.15								
12/2	"	433	108	7.59								
3	"	506	384	7.53								
4	"	560	495	7.28								
"	Final	19	52	7.54							97%	89%
"	M.L. Tank		2610		SVI = 77			Settleable Solids = 20				
12/5	Influent	560	280	7.89								
"	Final	16	40	7.70							97%	86%
	M.L. Tank		2770		SVI = 83			Settleable Solids = 23				
	Return		1680		SVI = 101			Settleable Solids = 17				

Parkcrest Wastewater Treatment Facility

(1) Package Treatment Plant of unknown capacity and dual cell lagoon of unknown size.

(2) Influent flow and strength unknown

(3) Mr Tom Smith owns the sewer lines, treatment plant, lagoons and the property where the treatment facility is located.

(4) Mr Smith charges a sewer use fee.

(5) The lagoon serves the shopping center and approximately 10 duplex apartments.

(6) The PSC and the MCWC are threatening to take action against Mr Smith.

(7) A lift station seems to be the

only feasible solution if a compliance schedule to eliminate the facility in 5-6 years is not agreeable to the MCWC.

(8) A lift station and 10,000 feet of 6 inch force main and ~~feet of 8 inch gravity~~ main is needed to eliminate this treatment facility. The cost would be approximately $150,000

(9) The flow should be approximately 14,250 gal/day at 525 mg/L

Consumers	- 1000 gal/day	2 lbs BOD
20 Shops + Offices	4,000 gal/day	
1 Laundry + Cleaners	4,500	7
30 machines		37
1 Restaurant	1,000	6
20 living units	3,750	10
	14,250	62

Don:

CITIZEN COMPLAINT

0427

Date Received Continual

Name Many citizens of Parkcrest Area. Tom Smith Phone 869-1777

Address

Location and Nature of Complaint Terrible ordors from the lagoon located in southwest quadrant of Campbell-HiWay M intersection. Owner is ~~RRaX~~ Parkcrest Developer, Tom Smith. This complaint is ongoing and Mr. Snider and his staff are aware of problem. Citizens ~~are not complaining about Mr. Snider's efforts in this matter, only Mr. Smith's reluctance to correct situation. I feel Mr. Snider is coping with problem as effectively as he can within his area~~ of responsibility and authority. This report is for your information and continued support of Mr. Snider's efforts. A. W. Blume III

Councilmember Zone 3 10-16-74

Note: Some citizen's have mentioned class action suits.

CITY OF SPRINGFIELD

INTER-OFFICE MEMORANDUM

File Park Crest Treatment Plant

ATTENTION OF Bob Schaefer DATE February 5, 1975

DEPARTMENT

Attached are the last three months results of the survey of Tom Smith's treatment plant. I have been sending these results to Harry regularly and thought you might like to see the results to date. Samples have almost always been collected in the morning but not at a particular time in the morning. The percent removals of B.O.D. and suspended solids appeared to stablize in December. The suspended solids frequently have varied significantly from day to day, but this is quite possibly only a reflection of irregular sampling hours.

SIGNED Joyce Adams

LABORATORY ANALYSES _____ 19___

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	% Removal S.S	% Removal B.O.D
11/5/74	Inf.	≥1440	1230	6.41							99	≥98
	Eff.	22	16	8.19								
11/6/74	Inf	1000	700	7.34							92	97
	Eff	32	56	8.73								
11/7/74	Inf	375	184	8.51							71	93
	Eff	26	54	—								
11/8/74	Inf	245	60	7.64							-70	77
	Eff	57	102	8.92								
11/12/74	Inf	49	188	—							4	93
	Eff	30	180	9.03								
11/13/74	Inf	325	276	7.69							74	91
	Eff	30	72	9.12								
11/14/74	Inf	150	940	6.85								
11/15/74	Inf	810	830	7.36								
11/18/74	Inf	220	320	8.21								
11/19/74	Inf	260	112	7.25								
11/21/74	Inf	480	168	7.76								
11/22/74	Inf	363	340	7.79								
11/26/74	Inf	350	172	7.31								
11/27/74	Inf	395	208	7.15								
12/2/74	Inf	433	108	7.59								
12/3/74	Inf.	506	384	7.53								
12/4/74	Inf	560	495	7.28							89	97
	Eff	19	52	7.54								
12/5/74	Inf	560	280	7.89							86	97
	Eff.	16	40	7.70								

LABORATORY ANALYSES _____ 19___

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	% Removal S.S.	% Removal BOD
12/10	Inf	598	340	7.65							89	95
	Eff	29	38	–								
12/11	Inf	760	724	6.92							90	95
	Eff	37	74	7.60								
12/16	Inf	276	324	7.81							88	95
	Eff	14	26	7.60								
12/17	Inf	290	168	7.70							85	96
	Eff	13	26	7.64								
12/24	Inf	166	320	7.10							91	96
	Eff	7	30	7.50								
1/2/75	Inf	–	440	7.13							89	
	Eff	–	48	7.48								
1/10/75	Inf	320	308	7.00							94	97
	Eff	10	18	7.54								
1/20/75	Inf	483	356	8.13							96	98
	Eff	10	14	7.42								
1/27/75	Inf	245	180	7.49							70	84
	Eff	38	54	7.55								
								J.Adams				

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE January 15, 1975

DEPARTMENT Public Works

RE: Parkcrest Wastewater Treatment Facility

A little more than two months ago a meeting with Tom Smith, owner of the subject facility was held. His attorney, the City Manager, City Attorney, Jim Burris, you and I attended this meeting. After some discussion about the merits and problems of the City taking over this plant, it was decided that we would advise Mr. Smith how to properly operate the plant and prepare a report in about 60 days. This report was to indicate if the City could operate the plant in compliance with the MCWC regulations.

After some initial difficulties the plant seems to be operating efficiently. From the samples we have collected, it seems that the plant is properly sized and designed. We are now achieving from 90% to 95% removals of BOD and 80% to 90% removals of SS.

Even though these removals are certainly a big improvement, I feel that the Missouri Clean Water Commission will require irrigation of the effluent to eliminate discharge into the lagoons.

Before I make any definite recommendation in the solution of this matter, I want to see the requirements of the NPDES Permit for this facility. I understand that the public notice for this permit will be distributed in the next week or so. After we know what the requirements and the schedule of compliance are, a definite recommendation can be formulated.

We are continuing to assist Mr. Smith in checking the plant and collecting and analyzing plant samples. I should mention that Mr. Smith has indicated to Jim Burris and others that we are operating the plant now.

RRS:sw

SIGNED
Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

October 7, 1974

Mr. Thomas B. Smith
Parkcrest Development Company
RR4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

This letter is to confirm our telephone conversation on October 3, 1974, concerning the Parkcrest Subdivision sewage treatment facility. As I stated, the City has again received complaints from citizens living near this facility that obnoxious odors are being caused by the package treatment plant and lagoon. Water Pollution Inspectors in my office have also noted these odors when they have visited the site in recent weeks.

The Missouri Clean Water Commission has recommended that you place a person in charge of the maintenance and operation of the plant who has been trained in this work. They have also recommended that daily laboratory analyses be made in order to operate the plant efficiently. If these recommendations are followed, the odor problems which the treatment facility is now causing should be eliminated.

The Missouri Clean Water Commission has offered to advise the person placed in charge of the treatment facility in the proper laboratory analyses and operation and maintenance of the treatment plant. I am also offering the services of our treatment plant operations and laboratory personnel to assist you in any way possible to correct the existing problems in the plant's operation.

I am sure you are anxious to correct the odor problems so that the nearby residents are no longer bothered. It is hoped that as the plant operational problems are eliminated the odor problems are corrected. If we can be of any assistance, please let me know.

Sincerely,

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

RRS:cc

cc: David G. Snider, Director of Public Works
Jim Burris, Regional Engineer, Missouri Clean Water Commission

To Dave

Date 9-30 Time 11:00 By

While You Were Out

Mr. Art Blume

of

- [x] Telephoned
- [ ] Will Call Again
- [x] Please Call Him
- [ ] Called to See You
- [ ] Wants to See You
- [ ] Rush !

Phone 862-2722

Message

Lagoon — Bad again.

Tom Smith
869-1777

10.302 Greene

January 3, 1973

Mr. Harry Lampe
Director of Public Works
City Hall, 830 Boonville
Springfield, Missouri 65802

Dear Mr. Lampe:

We have recently received a complaint from a citizen representing a group in the Parkcrest Subdivision regarding the proposed dental clinic and offices immediately south of Parkcrest Shopping Center. The complaint alleges that the wastewater from the proposed clinic would be disposed of in the waste treatment works of Parkcrest Water Company.

The waste works of the above company consists of a Cantex extended aeration plant followed by 3 lagoon cells in series. The facility has been constructed in a very undesirable area, geologically, as indicated in the attached report. My staff has completed dye work which indicates that a discharge from the facility does go underground, reappearing in a spring to the southwest.

The facility normally does not discharge except during certain heavy rain periods. The citizen complaint, however, would indicate that the hydraulic contribution to the wastewater works would be increased due to the proposed dental facility. This would in turn increase the probability of a continuing discharge to the collapsed cave system.

We understand that the dental facility is before the City Council for a use permit on January 8, 1973. We are hopeful that Council would consider waste disposal in this situation.

Yours truly,

Charles S. Decker, E.I.T.
Regional Engineer
Springfield Regional Office
Missouri Clean Water Commission

CSD/cg

C.C. Paul T. Rickman
Central Office

3.100 Greene County
Parkcrest Subdivision

September 6, 1974

Mr. Thomas B. Smith
Parkcrest Development Company
RR 4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

This is to confirm our conversation during the inspection of the wastewater facilities serving Parkcrest Subdivision with representatives of the City of Springfield on August 30, 1974.

The Missouri Geological Survey had identified sinkholes in the area of the lagoon and expressed concern of the possible formation of sinkholes under the lagoon.

The Missouri Clean Water Commission is concerned that leakage through the lagoon floor exists and intermittent discharges from the lagoon be of sufficient quality to protect the "losing" stream which would carry the effluent.

We realize that the lagoon facility has been in existence for sometime, and we hope that city sewers will be available in the near future in order that the treatment facilities can be eliminated.

In the interim, there are several suggestions which we offer for your consideration which we believe would result in improved wastewater treatment facility operation.

1. Training in the operation of treatment works is essential. We understand that the Water & Wastewater School in Neosho, Missouri offers a short course which I believe your treatment plant operator could learn much from. Contact Dr. Ron Layton, Neosho Water & Wastewater Technical School, Neosho, Missouri for information.

2. To efficiently operate the plant, daily analysis for pH, settleable solids, settleability, and dissolved oxygen must be performed. Monthly analysis for B.O.D. and suspended solids in the plant effluent and influent should also be completed, either with your own equipment or by a commercial laboratory. The daily tests, in conjunction with a schooling program, will enable your plant operator to control the plant and produce an optimum effluent. Optimum operation of the waste treatment facilities should reduce the accumulation of excess solids and reduce the frequency of solids removed from the plant.

3. We would recommend that you obtain two manuals from the Water Pollution Control Federation, 3900 Wisconsin Avenue, Washington, D.C. These manuals are entitled Aeration in Wastewater Treatment and Simplified Laboratory Procedures for Wastewater Examination. The cost is $6 and $4, respectively, for non-members of the Federation.

4. We suggest that the air distribution and/or control system be modified to allow adjustment and time sequencing of each unit in the operation.

If we can be of any further assistance in this matter, please feel free to contact us.

Yours truly,

James A. Burris, P.E.
Acting Regional Engineer
Missouri Clean Water Commission

JAB/jo

cc Mr. Robert Schaefer, Supt. Sanitary Services
Central Office

Bob your file does

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE 9/5/74

DEPARTMENT Public Works Re: Park Crest Treatment Facility

A field inspection by our personnel on 9/4/74 indicated that the treatment plant was again in bad condition. The skimmer in the final tank was not operating, causing floating solids to accumulate and thus odors could be detected. I called Mr Smith on 9/4/74 a few hours after this inspection and informed him of what we had found. He indicated that he had been at the plant and had found that the skimmer wasn't working but had placed it back in service a short time ago. He indicated that something was causing the skimmer to malfunction regularly and that he was going to get it fixed. We will check the facility daily until we feel that the unit is operating properly, and then we will check it weekly. SIGNED Robert R. Schaefer

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE 9/5/74

DEPARTMENT Public Works Re: Park Crest Treatment Facility

A field inspection by our personnel on 9/4/74 indicated that the treatment plant was again in bad condition. The skimmer in the final tank was not operating, causing floating solids to accumulate and thus odors could be detected. I called Mr Smith on 9/4/74 a few hours after this inspection and informed him of what we had found. He indicated that he had been at the plant and had found that the skimmer wasn't working but had placed it back in service a short time ago. He indicated that something was causing the skimmer to malfunction regularly and that he was going to get it fixed. We will check the facility daily until we feel that the unit is operating properly, and then we will check it weekly.

SIGNED Robert G Shafer

CITY OF SPRINGFIELD

City Hall
830 Boonville Avenue
Springfield, Missouri 65802
417-865-1611

Memo To Dave Snider:

RE: Park Crest Treatment Facility Sewage

On September 30, 1974, I met with Tom Smith, owner of the Park Crest Sewage Treatment Facility and Jim Burris, Regional Engineer of the Missouri Clean Water Commistion to discuss the condition and operation of this facility. It was explained to Mr. Smith that both the City and the Missouri Clean Water Commission have recieved complaints from nearby residents about odors from the treatment plant. Mr. Smith indicated that lightning had hit the treatment plant and burned out the relay swithches and that he had just received and replaced the switches the day before.

We inspected the treatment facility and found tht the blowers and various motors were operating. The treatment plant, while it wasn't emitting an obnoxious odor, did not appear to be functioning properly. The treatment plant effluent seemed to be clear, however, and the lagoons receiving this effluent didn't appear to be in such a condition that foul odors would occur. I explained to Mr. Smith that we would be happy to advise the person he has placed in charge of operation of the plant in the proper lab procedure and maintainence, Mr. ~~Brown~~ Burris also offered the assistance of the Missouri Clean Water Commission's staff.

It is likely that Ward Branch Trunk Sewer won't be available to this area for three years at a minimum. In the interim period, this treatment facility will be used. If the facility is operated and maintained properly I feel that odors will not be a problem. In order that the plant never deteriates to the extent found early last week, personnel from this office will make regular inspections, at least monthly, of the plant. Any unsatisfactory conditions will be reported to Mr. Smith for immediate corrections.

Sincerely

Robert R. Schaefer

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

GNC

ATTENTION OF Mr. Robert R. Schaefer, P.E. DATE August 28, 1974

DEPARTMENT Superintendent of Sanitary Services

Re: Parkcrest Treatment Plant

Upon inspection of the Park Crest Package Extended Aeration Facility August 27, 1974, the following problems were found:

1. The skimmer was not in operation and substantial solids buildup was present.

2. The intake bar screen was clogged with debris and was causing some backup in the inlet pipe.

3. The final clarifiers were almost totally clogged with solids to the point that flow was discharging at only two or three points.

4. Solids buildup was so prevalent that septic conditions exist.

5. Very significant odor could be detected for some distance from the facility.

JRL:cc

SIGNED J. Randall Lyman
J. Randall Lyman
Water Pollution Control Inspector

3.100 Greene County
Parkcrest Subdivision

August 28, 1974

Mr. Thomas B. Smith
Parkcrest Development Company
3952 Fairview Avenue
Springfield, Mo. 65802

Dear Mr. Smith:

This is to confirm our telephone conversation of August 27,1974 concerning the waste water facilities serving the Parkcrest Development Company in Springfield, Missouri.

There will be a meeting on Friday, August 30, 1974 at 1:00 p.m. in the office of the Missouri Clean Water Commission between the City of Springfield, Mr. Tom Smith, President of the Parkcrest Development Company, and the Missouri Clean Water Commission to discuss the wastewater facilities which serve the Parkcrest Subdivision.

Yours truly,

James A. Burris

James A. Burris, P.E.
Acting Regional Engineer
Missouri Clean Water Commission

JAB/jo

cc Robert Schaefer, Supt. of Sanitary Services
Central Office

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE August 27, 1974

DEPARTMENT Director of Public Works

Re: Park Crest Lagoon

I talked with Jim Burris, Missouri Clean Water Commission, this date concerning the Park Crest Lagoon located at the Southwest corner of the intersection of Campbell Avenue and Republic Street. I had spoken with Mr. Burris a few weeks ago after Mr. Blume had informed me that many residents in the area were complaining about odors from the lagoon.

The Missouri Clean Water Commission wrote Mr. Tom Smith, owner of the treatment facility, a letter on June 5, 1974 indicating that they had received complaints about odors from the lagoon. The Missouri Clean Water Commission inspected the treatment facility after Mr. Criswell and I talked to them about the information we had received from Mr. Blume. They sent Mr. Smith a "Report of Inspection" dated August 14, 1974, which outlined that the plant was not receiving proper maintenance and was not operating satisfactorily. Mr. Smith was told to contract with a firm with knowledge of sewage treatment to improve the operation of the treatment facility. They have not heard from Mr. Smith since sending this report. Normally the MCWC would reinspect the facility about September 14, 1974.

The treatment facility consists of a package extended aeration facility which discharges into a three cell lagoon. If the package plant is sized properly and is operated properly, there should be no reason for odor problems to occur. The lagoon is, however, in a sinkhole area which is certainly not an acceptable location for a sewage lagoon. I have requested that Mr. Burris contact Mr. Smith to set up a meeting which I would attend. If Mr. Burris and I can persuade Mr. Smith to operate this facility properly, I feel that no further problems will occur. This facility could then be used until Ward Branch Trunk Sewer is available.

I will keep you informed of any further action in this matter.

RRS:cc

SIGNED
Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

5.3 Springfield

January 3, 1973

Mr. Harry Lampe
Director of Public Works
City Hall, 830 Boonville
Springfield, Missouri 65802

Dear Mr. Lampe:

We have recently received a complaint from a citizen representing a group in the Parkcrest Subdivision regarding the proposed dental clinic and offices immediately south of Parkcrest Shopping Center. The complaint alleges that the wastewater from the proposed clinic would be disposed of in the waste treatment works of Parkcrest Water Company.

The waste works of the above company consists of a Cantex extended aeration plant followed by 3 lagoon cells in series. The facility has been constructed in a very undesirable area, geologically, as indicated in the attached report. My staff has completed dye work which indicates that a discharge from the facility does go underground, reappearing in a spring to the southwest.

The facility normally does not discharge except during certain heavy rain periods. The citizen complaint, however, would indicate that the hydraulic contribution to the wastewater works would be increased due to the proposed dental facility. This would in turn increase the probability of a continuing discharge to the collapsed cave system.

We understand that the dental facility is before the City Council for a use permit on January 8, 1973. We are hopeful that Council would consider waste disposal in this situation.

Yours truly,

Charles S. Decker, E.I.T.
Regional Engineer
Springfield Regional Office
Missouri Clean Water Commission

CSD/cg

C.C. Paul T. Hickman
Central Office

ADDENDUM
ENGINEERING GEOLOGIC REPORT OF THE PARKCREST SHOPPING CENTER LAGOONS

Greene County, Missouri

LOCATION: SE¼ NE¼ NE¼ sec. 14, T. 28 N., R. 22 W., (Springfield Quadrangle)

GEOLOGIC SETTING:

The lagoons have been constructed in an area of stoney red clay where limestone is at shallow depths. Pinnacles of limestone were observed in portions of the lagoon prior to the filling of the lagoon. The red clay soil and the limestone are permeable. The cavernous condition of the limestone is illustrated by the fact that water flow has been traced from a sinkhole located at the eastern edge of the Parkcrest Shopping Center southwestward to a spring located in the NW¼ SE¼ SE¼ sec. 14, T. 28 N., R. 22 W., (Springfield Quadrangle). This is on a line almost directly under the Parkcrest lagoons.

The Parkcrest lagoons are in a losing stream valley just as is the nearby sinkhole. This valley here is typically expressed as a collapse valley from the result of solutioning of the underlying limestone. Thus, surface flow is lost almost immediately to the subsurface and thence to the groundwater aquifer in the limestone bedrock.

RECOMMENDATIONS:

Flow overtopping the lagoon dike, as observed on 26 September 1972, must be halted. This overflow remains as surface flow on the valley floor for only a few feet before being lost as the result of rapid seepage into the subsurface. Data on shallow groundwater tracing within the Springfield area indicates that groundwater at shallow depths within the near-surface limestone moves at an approximate rate equal to surface stream flow. Thus, it is expected that pollutants within the near-surface limestone, also move at an approximate rate equal to surface stream flow. Thus, it is anticipated that pollutants which enter this shallow groundwater supply, for example, springs or shallow cased wells, will move rapidly from the point of source to the point of discharge. Some of these pollutants will also affect deeper aquifers as shown by the problems of pollution extending to greater depths as within the area around the city of Springfield.

James H. Williams, Chief
Engineering Geology Section
Missouri Geological Survey
September 29, 1972

Park Crest Lagoon

10.302 Greene County
Park Crest Village

March 21, 1972

Mr. Thomas B. Smith, President
Park Crest Development Company
3952 Fairview Ave.
Springfield, Missouri 65804

Dear Mr. Smith:

It has come to our attention that you are constructing some type of sewage treatment device and sewer lines to serve a portion of the Park Crest Development. Please be advised that the Water Pollution Law requires you to obtain a construction permit for new construction or modifications to the existing facilities. In order to obtain the required permits engineering plans and specifications must be submitted to the Water Pollution Board through the City of Springfield for review and approval.

A reply as to your intentions is requested by March 29, 1972. If you have any questions, please advise.

Yours truly,

Charles S. Decker, E.I.T.
Regional Engineer
Springfield Regional Office

CSD: cd

CC: Jerry Croy, Enforcement Officer
Paul T. Hickman, Superintendent, Sanitary Services
Greene County Health Department
District 5, Division of Health
Central Office

Park Crest Village

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

file
send
copy to
Paul Huckman

CASE NO. 17,453

In the matter of the application of Park Crest Water Company, Inc., a corporation, for a certificate of convenience and necessity authorizing it to provide sewer service as a public utility in Greene County, Missouri.

APPEARANCES: Louis W. Cowan and William J. Roberts, Attorneys at Law, 221 Woodruff Building, Springfield, Missouri 65806, for the Applicant.

Michael F. Pfaff, Assistant General Counsel, Missouri Public Service Commission, Jefferson State Office Building, Jefferson City, Missouri 65101, for the Commission Staff and the Public.

REPORT AND ORDER

By an application filed on the 5th day of April, 1972, Park Crest Water Company, Inc., a Missouri corporation, with its principal office at 3952 Fairview Avenue, Springfield, Missouri (hereinafter sometimes referred to as "Applicant") seeks a certificate of convenience and necessity to provide sewer service as a public utility in two areas of Greene County, Missouri.

After due notice to all interested parties, a hearing was held on the 30th day of May, 1972, in the Commission's hearing room in Jefferson City, Missouri. At the close of the hearing, the parties waived written briefs, oral argument and the reading of the transcript and the case was submitted on the record.

Findings of Fact

The Missouri Public Service Commission, having considered all of the competent and substantial evidence upon the whole record, makes the following findings of fact:

Applicant is a public utility corporation duly organized and existing under and by virtue of the laws of the State of Missouri, with its principal office at 3952 Fairview Avenue, Springfield, Missouri.

Applicant seeks a certificate of convenience and necessity to serve two separate areas of Greene County, Missouri with utility sewer service. The first area is now within the city limits of the City of Springfield, Missouri. However, when Applicant originally constructed and began operation of the sewer facilities located generally west of and adjacent to South Campbell Avenue (U. S. Highway No. 160), Springfield, Missouri, that area had not been annexed into the city. Likewise this applied-for area until recently had fewer than 25 outlets and therefore was exempt from regulation by this Commission. However, there are now in excess of 25 customers in this part of Applicant's company; and thus Applicant seeks the certificate of convenience and necessity to serve that area. Applicant's presently operated sewer system consists of sewer lines and a waste stabilization facility; with three cells and an aerated primary treatment plant. Applicant proposes to continue to charge the rates presently in effect if granted a certificate by this Commission and said rates are approved by this Commission. These rates are $1.50 per month per family unit for residences and a commercial rate of 45 percent of the charge for water service per month with a minimum charge of $1.50 per month.

Applicant also seeks a certificate of convenience and necessity to provide utility sewer service in an unincorporated area of Greene County, Missouri south of the city limits of Willard, Missouri. The President of the Park Crest Water Company has purchased 360 acres in this area and is going to subdivide the property. At the hearing, Applicant sought to amend its application with regard to this area and being restrictive in nature, said amendment was accepted. Pursuant to this amendment, Applicant is seeking

only to provide sewer service in its subdivision area. The original application would have provided service concurrent with the water utility service requested by this Applicant in Case No. 17,451. Applicant proposes to charge the same rates for the new area as he is charging in his existing service.

The President of Applicant stated that it was not feasible to provide utility sewer service for the area surrounding his development. The witness and his wife are the sole shareholders of Applicant and in addition to providing sewer service in the existing area as described above, Applicant has held a certificate of convenience and necessity from this Commission providing water service in an area now incorporated into Springfield, Missouri, with said water company having been purchased by the municipal water utility in the City of Springfield, Missouri. Applicant sponsored financial exhibits which demonstrate it to be financially able to provide the service requested. Applicant understands the obligation of serving as a public utility and will construct the new facilities in an adequate manner and size to serve the public and states that all construction will be in accordance with the requirements of all agencies both Federal and State having jurisdiction and has or will obtain all necessary permits and file with this Commission.

Two members of a consulting engineering firm testified with regard to sizes and design of the new area sewer system.

Conclusions

The Missouri Public Service Commission has arrived at the following conclusions:

The public in an area now incorporated into Springfield and further described in Ordered 1 as "existing area" need the sewer service being provided by Applicant to them. Further, the public in an unincorporated area of Greene County south of the City of Willard, as further described in Ordered 1 as "new area" need sewer utility service to make the area one of residential character.

Applicant has adequate financial resources and said facilities will generate sufficient revenue to make the applied-for authority feasible.

The Commission is of the opinion that Applicant will comply with the rules and regulations of the Commission and the requirements of law and of the authority sought as amended is consistent with the public convenience and necessity and therefore should be granted.

It is, therefore,

ORDERED: 1. That Park Crest Water Company, Inc., 3952 Fairview Avenue, Springfield, Missouri 65802, be, and it is, hereby granted a certificate of convenience and necessity authorizing it to construct, operate, and maintain a sewer system as a public utility in areas described as follows:

EXISTING AREA:

A tract in Springfield, Missouri, commencing at the intersection of the South right-of-way line of Swan Drive and the West right-of-way line of Campbell Avenue; thence South along the West right-of-way line of Campbell Avenue approximately 3,800 feet to a point approximately 1,000 feet South of Republic Street (Greene County Route "M"), thence West 852.7 feet; thence North 306 feet to Republic Street; thence East along Republic Street approximately 352.7 feet to a point on the East right-of-way line of South Fairview Avenue as extended; thence North along the East right-of-way line of South Fairview Avenue to the South right-of-way line of Swan Drive; thence East to the point of beginning, the South line of said tract being the South boundary line of the following:

Beginning 696.4 feet South of the Northeast corner of the Northeast Quarter (NE 1/4) of Section Fourteen (14), Township Twenty-eight (28), Range Twenty-two (22); thence West 852.7 feet; thence South 306 feet; thence East 852.7 feet; thence North 306 feet to the point of beginning.

NEW AREA:

The East Half (E 1/2) of the Southwest Quarter (SW 1/4) of Section Two (2); the Southwest Quarter (SW 1/4) of the Southwest Quarter (SW 1/4) of

Section Two (2); the Southeast Quarter (SE 1/4) of Section Three (3); and the South Half (S 1/2) of the Southwest Quarter (SW 1/4) of Section Three (3), all in Township Twenty-nine (29), Range Twenty-Three (23), Greene County, Missouri.

ORDERED: 2. That Park Crest Water Company, Inc., shall file subject to the approval of the Commission, a schedule of rates, rules and regulations for sewer service to be furnished within the area herein described within sixty (60) days from the effective date of this Report and Order.

ORDERED: 3. That Park Crest Water Company, Inc., be, and is, hereby ordered to secure within sixty (60) days from the effective date of this Report and Order operating permits in compliance with the requirements of the Missouri Clean Water Commission for all constructed facilities in use.

ORDERED: 4. That Park Crest Water Company, Inc., within the time provided for in Ordered 2, furnish this Commission satisfactory evidence that operating permits have been obtained from the Missouri Clean Water Commission for all constructed facilities in use.

ORDERED: 5. That this Report and Order shall become effective on the 3rd day of October, 1972, and the Secretary of the Commission shall serve a certified copy of same upon each interested party.

BY THE COMMISSION

Sam L. Manley

Sam L. Manley
Secretary

(S E A L)

Jones, Chm., Clark, Fain,
Reine and Mauzé, CC., Concur.

Dated at Jefferson City, Missouri,
this 22nd day of September, 1972.

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Mr. V. W. Whitfield, Director DATE June 24, 1966.

DEPARTMENT Public Works.

RE: Annexation

The only cost that might be incurred in the proposed annexed areas by the Division of Sanitary Services within the next few years would be those sewers and the wastewater lagoon which is currently being constructed in the Park Crest Addition should the city take this over for operation and maintenance.

If this division should take these facilities over, the cost of operation per year would be as follows:

Sewer Maintenance

I am assuming that there would possibly be 10,000 lineal feet of sewer installed in this addition. Our current costs for maintenance of sewers within the city is approximately 5 cents per lineal foot. Therefore, the total maintenance cost would be $500.00.

Lagoon Maintenance

Ten manhours per week would be required for mowing banks and the general area surrounding. This would be required thirty-two weeks out of each year. At $2.00 per hour, this would amount to $640.00. Four manhours per week would be required for cleaning edges and breaking floating bacterial growth. At fifty-two weeks and $2.00 per man hour, this would amount to $416.00.

The total cost involved for this for the Division of Sanitary Services would be $1,556.00 per year.

SIGNED Paul T. Hickman

PTH:ns

Paul T. Hickman, Superintendent Sanitary Services.

10.302 Greene County
Park Crest Development

June 22, 1972

Mr. Thomas B. Smith, President
Park Crest Development Company
3952 Fairview Avenue
Springfield, Missouri 65802

Dear Mr. Smith:

This is to advise that Operating Permit Number W3490 issued August 24, 1967 for a waste stabilization lagoon to serve Park Crest Village, Greene County, Missouri, will be revoked July 24, 1972 as the lagoon described in the permit has been abandoned. This lagoon has been replaced by other facilities which have not been approved by the Missouri Clean Water Commission. Operation of these facilities is in violation of the Missouri Clean Water Law, Chapter 204, RSMo. 1972 Supplement (Senate Bill 424).

You are hereby requested to file application for the necessary permits with Mr. Steve Decker, Regional Engineer, Missouri Clean Water Commission, 1155 East Cherokee, Springfield, Missouri. Failure to do so will result in appropriate enforcement action by the Missouri Clean Water Commission.

Yours truly,

Jack K. Smith
Executive Secretary

JKS/CAS/ih

CC: Paul Hickman, City of Springfield
Greene County Health Department
Greene County Planning and Zoning Commission
Missouri Public Service Commission
Missouri Division of Health
Springfield Regional Office, M.C.W.C.

10.302 Greene County
Parkcrest Development

September 29, 1972

Mr. Thomas B. Smith, President
Parkcrest Development Company
3952 Fairview Avenue
Springfield, Missouri 65802

Dear Mr. Smith:

This is to advise that Operating Permit No. W 3490 issued on August 24, 1967, for a waste stabilization lagoon to serve Parkcrest Village, Greene County, Missouri was revoked July 24, 1972, as the lagoon described in the permit has been abandoned. This lagoon was replaced by other facilities which have not been approved by the Missouri Clean Water Commission. Operation of these facilities is in violation of the Missouri Clean Water Law, Chapter 204, RSMo. 1972 Supplement (Senate Bill 424).

Yours truly,

Jack K. Smith CSD

JACK K. SMITH
Executive Secretary
Missouri Clean Water Commission

JKS/CSD/cg

C.C. Paul Hickman, City of Springfield
Greene County Health Department
Greene County Planning and Zoning Commission
Missouri Public Service Commission
Missouri Division of Health, District 5
Central Office

10.302 Greene County
Park Crest Village

August 28, 1970

Mr. Wayne Young
1900 S Campbell
Springfield, Missouri 65804

Dear Mr. Young:

This is in regard to your telephone call of August 27, 1970.

Our files do not indicate what is presently connected to the lagoon. We will make an inspection of the lagoon and the loading received. It would facilitate our inspection if you could provide us with the number of homes presently connected, the number of meals served by any restaurants, and water usage and number of employees at each of the businesses. If our inspection indicates that additional facilities are needed, it will be necessary for you to retain the services of a registered engineer to prepare plans and submit them through the City of Springfield to the Missouri Water Pollution Board for review and issuance of a construction permit.

If you have any questions, please feel free to contact us.

Yours truly,

Ted H. Forester, E.I.T.
Field Engineer

THF/aw

CC: Paul T. Hickman

BASIN OFFICES

State Office Building
615 East 13th Street
Kansas City, Missouri 64106
Telephone 816 274-6675

8460 Watson Road
St. Louis, Missouri 63119
Telephone 314 849-1313

JAMES A. DUNN
Special Assistant Attorney General

Lagoon file

MISSOURI WATER POLLUTION BOARD
THE DEPARTMENT OF PUBLIC HEALTH AND WELFARE
112 WEST HIGH P.O. Box 154
JEFFERSON CITY, MISSOURI 65101
TELEPHONE 314 635-9117

5.3 Springfield

October 22, 1970

Mr. Thomas B. Smith, President
Parkcrest Development Company
3952 Fairview Avenue
Springfield, Missouri 65802

Dear Mr. Smith:

Enclosed is a copy of a report on investigation of the sewage treatment plant, Springfield, Missouri, which I believe is self explanatory.

I trust you will direct your attention to the recommendations contained in this report.

Yours truly,

Jack K. Smith
Executive Secretary

JKS/ESL/bk

CC: Mr. Paul Hickman, Superintendent of Sanitary Services
Springfield City Health Department

Enclosure

REPORT ON INVESTIGATION OF THE SEWAGE TREATMENT WORKS

SERVING PARKCREST VILLAGE

Springfield, Missouri

October 21, 1970

INTRODUCTION:

An investigation was made of the geological conditions at the site and present load on the waste stabilization lagoon serving Parkcrest Village Subdivision in Springfield, Missouri. This investigation was made by representatives of the Water Pollution Board and Missouri Geological Survey on September 8, 1970. The following defects were noted and recommendations are made for their correction.

DEFECTS:

1. The lagoon is calculated to be overloaded with the present connected load.
2. The waste stabilization lagoon has no overflow.
3. The lagoon is leaking through the bottom.
4. The lagoon is not fenced.

COMMENTS:

It is estimated that about 55.8 pounds of BOD is discharged to the lagoon per day. The lagoon is large enough to treat only 31 pounds of BOD per day. The present lagoon is therefore not large enough to treat the present load.

We are enclosing a copy of the State Geologists report on the lagoon site indicating that in his opinion the lagoon bottom leaks. The lagoon has no overflow structure, therefore, it must be concluded that the lagoon bottom leaks.

RECOMMENDATIONS:

1. That a consulting engineer be employed to design adequate treatment facilities for the existing load and the additional load contributed by Mr. Young's development should he decide to connect to your sewage works.

2. That a time schedule for treatment facilities be submitted to this office by November 30, 1970. The time schedule should include the date the engineer's report will be submitted to this office for approval, the date detailed plans and specifications will be submitted to this office for issuance of a construction permit, the date the treatment facilities will be placed in operation.

SUBMITTED BY:

Edward S. Lightfoot

Edward S. Lightfoot, P.E.
Chief Engineer

APPROVED:

Jack K. Smith

Jack K. Smith
Executive Secretary
Missouri Water Pollution Board

MISSOURI GEOLOGICAL SURVEY

1870 1970

September 30, 1970

1853-1861
First State Geological Survey
G. C. Swallow, State Geologist
Columbia, Missouri

1870
Second State Geological Survey
A. D. Hager, State Geologist
Washington University
St. Louis, Missouri

1875-1878
C. P. Williams, State Geologist &
Director - Missouri School of Mines
Rolla, Missouri

1889
Third State Geological Survey
Arthur Winslow, State Geologist
Jefferson City, Missouri

1901
E. R. Buckley, State Geologist
Rolla, Missouri

1908
H. A. Buehler, State Geologist
Rolla, Missouri

1944
E. L. Clark, State Geologist
Rolla, Missouri

1955
T. R. Beveridge, State Geologist
Rolla, Missouri

1964
W. C. Hayes, State Geologist
Rolla, Missouri

Mr. Ed Lightfoot
Missouri Water Pollution Board
P. O. Box 154
Jefferson City, Missouri 65101

Dear Mr. Lightfoot:

Ref: Parkcrest Lagoon, Springfield, Mo.
NE¼ NE¼ sec. 14, T. 28 N., R. 22 W.

The existing lagoon to serve the commercial enterprises at Parkcrest Village in Springfield, Missouri is located on a losing reach of Ward Branch. This site consists of red stony, permeable soils that have a permeability rate quite similar to that of a compacted fine sand. Generally, for water holding purposes such as lagoons, this soil has to be treated with bentonite disced into the soil or has to be lined with some type of artificial lining, usually a CL-CH type clay that is frequently found on the ridges within this area. It is my estimation that the existing lagoon is leaking through the bottom and into cavernous bedrock.

The bedrock at this site is composed of the Burlington limestone which is relatively pure of chert and has numerous solution passageways and is quite cavernous. The small spring and cave just east of the Parkcrest Plaza was dyed for dye tracing study by Jerry Vineyard of the MGS. Dye was recovered in a small spring on Ward Branch, indicated on the accompanying map.

It is my opinion that the existing lagoon is located in a sink collapse; however it is not the typical sink collapse where one normally pictures a circular or oblong hole. This area resembles a valley where an entire cave system roof has collapsed and eroded leaving a dry permeable streambed. This appears to be in process now in the valley just north of the Parkcrest Subdivision outlined in red on the accompanying map.

Therefore it is recommended that any additional sewage disposal in this area be treated in such a manner that the liquid effluent could be allowed to enter the shallow groundwater in this area.

Sincerely yours,

Edwin E Lutzen

Edwin E. Lutzen, Geologist
Engineering Geology

EEL:dr

Location File

5.3 Springfield

October 23, 1970

Mr. Wayne Young
1900 South Campbell
Springfield, Missouri 65804

Dear Mr. Young:

We have reviewed the loading on the waste stabilization lagoon serving Parkcrest Village in Springfield, Missouri. We estimate that the existing lagoon is overloaded with the present load connected, therefore, it is not large enough to treat the waste from your proposed development.

We have written a report to Mr. Smith to this effect and have recommended he retain an engineer to design adequate sewage works to treat the existing load plus the anticipated load from your development if you so desire.

If we may be of further service, please advise.

Yours truly,

Edward S. Lightfoot, P.E.
Chief Engineer

ESL/bk

CC: Mr. Paul Hickman, Superintendent of Sanitary Services
City Health Department

Lagoon file

5.3 Springfield

December 8, 1970

Mr. C. R. Rosenbaum, P.E.
T & G and Associates, Inc.
3863A South Campbell Avenue
Springfield, Missouri 65804

Dear Mr. Rosenbaum:

In regard to your letter of November 20, 1970, we are enclosing a copy of our report of investigation and the State Geologist's report on the present lagoon site serving Park Crest Village in Springfield, Missouri.

We believe the present lagoon bottom must be sealed satisfactorily to begin with. Then at least two alternates would be satisfactory:

1. An extended aeration plant with chlorination could be designed to empty into the present lagoon to polish the effluent.

2. A three cell lagoon could be designed utilizing the existing lagoon cell.

Plans and specifications must be submitted to the Water Pollution Board for issuance of the necessary permits prior to construction of the improvements.

Yours truly,

Edward S. Lightfoot, P.E.
Chief Engineer

ESL/bk

CC: Mr. Paul Hickman, Superintendent of Sanitary Services, Springfield, Missouri

March 4, 1971

Mr. Ralph L. Weddington
10501 Corrington
Kansas City, Missouri 64134

Dear Mr. Weddington:

Your letter of February 16 to the Sanitary Engineering Department has been forwarded to me for reply.

It is true there is a lagoon just south of Highway M on Campbell Street and it is a private lagoon which provides for sewer service to the Park Crest Shopping Center. It is owned and operated by the developer. It is an open lagoon. This is necessary for proper operation to allow sunlight for biological activity.

We view this as a temporary installation in that trunk sewers are currently in the planning stage to serve the entire area in that drainage basin. It is hoped that this trunk sewer will be built and in service by the end of five years. Hppefully, a lateral sewer will be extended to the Park Crest area and this facility abandoned.

If I can be of any further service to you, please feel free to contact me.

Yours truly,

Paul T. Hickman, P.E., Supt.
Sanitary Services

PTH:cc

10501 Corrington
Kansas City, Mo. 64134
February 16, 1970

Sanitary Engineering Dept.
Springfield, Missouri

Dear Sir:

I have been planing on building in Park Crest on M highway. Driving by there a few days ago I noticed a lagoon just south of the highway. Is this for sewerage? If so will it be open? Is it temporary or permanent?

I would appreciate receiving any information on this before making a decision to build.

Yours truly,
Ralph L. Weddington
Ralph L. Weddington

R. L. Weddington
10501 Corrington
Kansas City, Mo. 64134

KANSAS CITY MO. GVM
AM
17 FEB
1971

ALWAYS USE
ZIP CODE

City of Springfield
Sanitary Engineering Dept.
Springfield, Missouri

were undetermined, the permit for the ice cream parlor would, of course, have to be conditional and in the event it was determined that the operator of the lagoon was not willing to take necessary steps to bring the lagoon into compliance, the temporary permit would be cancelled. This involves some risk on behalf of all parties concerned but was the only alternative I could see short of a simple "yes" or "no" answer on the matter of issuing a permit for remodeling.

Yours truly,

Howard C. Wright, Jr.
City Attorney

/pe

cc: Bob Schaefer
Steve Townley

Park Crest
needs solids removed
effluent looks OK

2nd lagoon almost dry
1st lagoon seems to be leaking

over last 13 months ave 610 cf /mo.

3825 S Campbell (Appliance Store)
1.5 - 2 cf / month

Levepsons E Sunship
only 3 months records
ave 31 cf/mo

Serve in plates & glasses
serves sandwiches

January 17, 1975

Mr. James A. Burris
Regional Engineer
Missouri Clean Water Commission
1155 East Cherokee Street
Springfield, Missouri 65807

Dear Mr. Burris:

This is a status report concerning the small package plant and lagoon facilities located at the southwest corner of Campbell and Republic Road. This facility is owned and operated by Mr. Tom Smith.

After our meeting with you, our City Manager, our City Attorney and Mr. Smith and his attorney, the plant has had some adjustments made to it and some of the operating difficulties have been eliminated. We have provided some technical assistance and sampling at the plant and are certain that the plant is properly designed and properly sized. The plant is now achieving from 90% to 95% removals of BOD and 80% to 90% removals of suspended solids. We are continuing to monitor this facility and will continue to provide any technical assistance we can to Mr. Smith.

We have not taken this plant over, yet, for maintenance or operation. This requires Council action since it would expend monies not previously authorized. Mr. Bob Schaefer has the operation of this facility under advisement and hopefully within the next month he will have some more recommendations for the operation of this facility. In the meantime, we will continue to assist Mr. Smith in checking the plant's operation and collecting and analyzing plant samples but we are not operating nor have we assumed any ownership of this facility.

Very truly yours,

David G. Snider, P.E.
Director of Public Works

DGS/ec

cc: Don Busch, City Manager
Howard Wright, City Attorney
cc: Tom Smith 1/20/75

Note: I have written this letter to Jim Burris because the word is out from Mr. Smith that this is our facility now. I thought it best that we made our position clear while we are still formulating our recommendations for you concerning this plant.

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE January 15, 1975

DEPARTMENT Public Works

RE: Parkcrest Wastewater Treatment Facility

A little more than two months ago a meeting with Tom Smith, owner of the subject facility was held. His attorney, the City Manager, City Attorney, Jim Burris, you and I attended this meeting. After some discussion about the merits and problems of the City taking over this plant, it was decided that we would advise Mr. Smith how to properly operate the plant and prepare a report in about 60 days. This report was to indicate if the City could operate the plant in compliance with the MCWC regulations.

After some initial difficulties the plant seems to be operating efficiently. From the samples we have collected, it seems that the plant is properly sized and designed. We are now achieving from 90% to 95% removals of BOD and 80% to 90% removals of SS.

Even though these removals are certainly a big improvement, I feel that the Missouri Clean Water Commission will require irrigation of the effluent to eliminate discharge into the lagoons.

Before I make any definite recommendation in the solution of this matter, I want to see the requirements of the NPDES Permit for this facility. I understand that the public notice for this permit will be distributed in the next week or so. After we know what the requirements and the schedule of compliance are, a definite recommendation can be formulated.

We are continuing to assist Mr. Smith in checking the plant and collecting and analyzing plant samples. I should mention that Mr. Smith has indicated to Jim Burris and others that we are operating the plant now.

RRS:sw

SIGNED Robert R. Schaefer
Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Wallace Munden DATE January 13, 1976

DEPARTMENT Engineering

Re: Parkcrest Lift Station

As you know, there has been considerable discussions in the past about providing a lift station for the Parkcrest Shopping Center area and additional commercial establishments around this area.

The City Attorney has instructed me that we will meet with the Missouri Clean Water Commission, and possibly Mr. Tom Smith, in about 2 weeks to determine how we should go about doing this. Mr. Wright feels that at that time we should have proposed boundaries of a sewer district for the area and some preliminary cost data for this sewer district.

If you have any questions about this, please let me know.

RRS/dw

SIGNED

Robert Schaefer; Supt. of San. Services

File Parkcrest

December 23, 1975

Missouri Public Service Commission
Jefferson Building
Jefferson City, Missouri

ATTENTION: Legal Counsel

Gentlemen:

Enclosed is a copy of a letter dated December 3, 1975, from Parkcrest Development Company wherein a statement is made that Public Service Commission Engineers stated that Mr. Smith did not have a duty to operate the sewer lagoon now serving Parkcrest Village.

It is my understanding Mr. Smith has been certificated to serve a part of Parkcrest Village through the operation of a sewage treatment plant. I would like to confirm this particular point and, in addition, I would like verification as to whether or not Mr. Smith has a continuing duty to provide service in the area that he has been certificated. I would assume that the statement contained in the letter of December 3, 1975, is completely incorrect in that until such time that the Public Agency makes provision for the treatment of this sewage, Mr. Smith has the continuing duty to provide treatment in accordance with the laws of the state of Missouri. We would like verification concerning on this particular point so that there will be no confusion in our discussions with Mr. Smith.

I might add that serious pollution problems exist with respect to the operation of this sewer system and the City is seeking immediate correction of the problems through the construction of a lift station so that the sewer system lagoon can be discontinued. Your immediate attention to this problem will be appreciated.

Yours truly,

RECEIVED
DEC 29 1975
PUBLIC WORKS

Howard C. Wright, Jr.
City Attorney

/jim

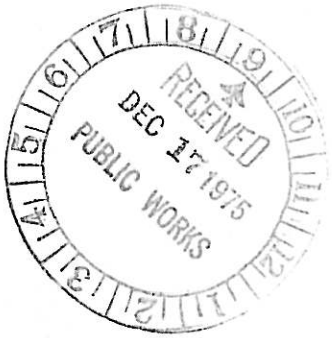
Enclosure

M I S S O U R I
CHRISTOPHER S. BOND
GOVERNOR

DEPARTMENT OF
Natural Resources
JAMES L. WILSON
DIRECTOR

Kenneth M. Karch, Director
Division of Environmental Quality
Springfield Regional Office, 1155 East Cherokee
Springfield, Missouri 65807
417 883-4033

3.100 Greene County
Parkcrest Subdivision



December 16, 1975

Mr. David Snider, P.E.
Director of Public Works
City Hall
830 Boonville
Springfield, Missouri 65802

Dear Mr. Snider:

We are enclosing herewith a copy of Mr. Tom Smith's letter to us dated December 2, 1975, concerning the sewage treatment plant and lagoon in Parkcrest Village.

This facility is currently in violation of the Schedule of Compliance as outlined in NPDES Permit No. MO-0084964, a copy of which was provided to the city.

Could you please advise us as to the city's current intentions regarding this facility?

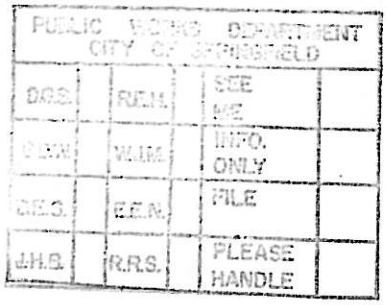
Yours truly,

John R. Nixon, P.E.
Acting Regional Administrator
Springfield Regional Office
Department of Natural Resources

JRN:OM:cm

encl.

cc: Robert Schaefer, Sanitary Dept.
Howard Wright, City Attorney
Water Quality Program - Steve Townley
Water Quality Program



Park-Crest Development Co.

Developers of Beautiful Park-Crest Village

• Phone UN-2-2H6
869-1777

Campbell Street Road and M Highway
Springfield, Missouri

December 2, 1975

DEC 3 1975

Missouri Clean Water Commission
1155 East Cherokee
Springfield, Mo. 65807

Att: Ed Sears

Gentlemen:

Re: Park Crest Development Co.
Springfield, Missouri
Permit No. 0084964, Page 3 of 3

In regard to our telephone conversation last Thursday, I wish to make the following report.

We do not plan to do any work in any way, regarding the sewer treatment plant in Park Crest Village, as the City has already received a grant of $100,000 for engineering of the Ward Branch sewer line, which they hope to have under construction within the next year or so if funds are available.

The Public Service Commission engineering department notified us last year that we did not have to operate a sewer system inside the City of Springfield, as I told you in our conversation. At the time they notified us, we also notified Mr. Howard Wright, city attorney and Dave Snider of the public works department of the Public Service Commission's report.

Mr. Burris was in the regional office of the Missouri Clean Water Commission at the time, and we set up a meeting with the City Manager, City Attorney, Dave Snider, my attorney and myself at the conference room at the City Hall, when they agreed to help us get the plant balanced out and in operation. I am enclosing a copy of the letter dated January 17, 1975 from the City Hall in regard to our meeting at that time, which is self-explanatory.

We did agree to let the City continue to operate the sewer facilities at the same location for a period of three years or until Ward Branch sewer line was completed, so that the facilities could be connected to same.

To date the City has not taken over the plant, but have continued to run samples of the effluent once a week, or there about.

Yours truly,

Tom Scott

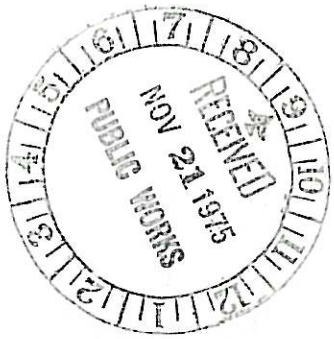
Park Crest Development Co.
Route # 4, Box 883
Springfield, Mo. 65802

Enc. 1

AgCon Co.

Professional Management Consultants / Investments / Project Funding / Property Development

R. W. Bitter
President



November 20, 1975

Mr. Dave Schneider
Sanitation Department
City Hall
830 Boonville
Springfield, Missouri 65802

PERSONAL CONFIDENTIAL

RE: Sewer problems -- Parkcrest area

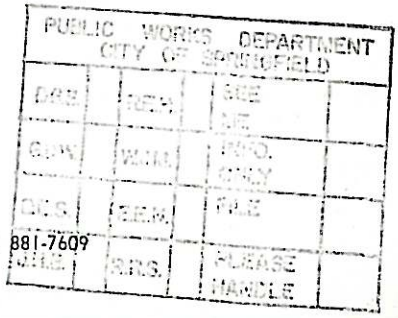
Dear Mr. Schnieder:

About two weeks ago we discussed again the possibility of initiating a sewer district for the South Campbell area and I mentioned to you that we were interested in pursuing this on the basis of participation by us as well as other businesses along the right of way from Erie Street south to LaSalle Street. You indicated that nothing has been done in so far as implementing the program relative to Mr. Smith and at this point you were not proceeding further with the matter.

Since talking with you, I had occasion to visit with the superintendent of the Reliable Chevrolet job (DeWitt Construction Company) and learned that they are planning to put septic tank with lateral lines in, just one block north of us. I also find that Mr. Withers shopping center immediately north of their location is also on a septic tank.

I am at a loss to really understand why we were required by the City of Springfield to put in a holding tank and a great deal of expense as far as hauling off the water is concerned when other businesses that are going in along Campbell are able to get by with a septic tank and lateral lines. I would appreciate an answer to this question.

Also in talking with DeWitt's superintendent on the Reliable Chevrolet job, I was assured that they would much rather spend their money tying into a permanent sewer line than they would to spend $10,000 or more putting in a septic tank with lateral lines.



Plaza Towers — Suite 812 — Glenstone & Sunshine — Springfield, Missouri 65804 — (417) 881-7609

Dave, I would believe really if we put the package together which would not be too dificult, we would have more than enough subscribe and guaranteed to take care of the $60,000 approximate installation cost of a sewer district to serve this area.

I would appreciate very much your pursuing this further in so far as requirements are concerned so that we can hopefully install our own septic tank so we have plenty of room for the lateral line on our property at Parkcrest Dental Group. I also would appreciate you pursuing the possibility of establishment of a sewer district as we had previously discussed utilizing funds from Reliable, Withers and others as well as ourselves to help fund this program as quickly as possible.

Would you please get back to me as soon as it is convenient?

Thank you very much.

Sincerely,

R. W. Bitter
President

RWB/jrs

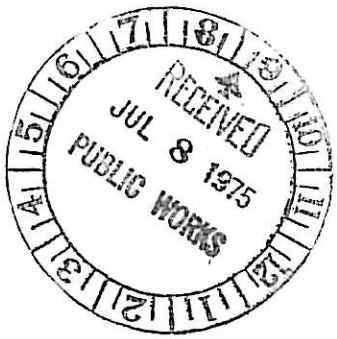
CC: Dr. Roger Bright
Robert Schaefer

881-7609

AgCon Co.

Management Consultants / Investments
Mergers - Acquisitions / Property Development

R. W. Bitter
President



July 7, 1975

Mr. David Schneider
Director of Public Works
830 Boonville
Springfield, Mo.

SUBJECT: Parkcrest Dental Group et al

Dear Mr. Schneider:

It was indeed a pleasure to visit with you, Mr. Burris and Mr. Schaffer yesterday to discuss some mutual areas of interest regarding the possibility of sewage facilities on South Campbell to service our various locations. To confirm our conversation, since we have areas of mutual interest, I agreed to pursue the program we discussed on the following basis.

1. You will reply to me within the next few days or as soon as feasible regarding the necessary procedures to establish a service to the South Campbell location as well as what is being done at this point that would be adjacent to any facilities we would pursue. You also are to send me the information relative to the area that could be served by a sewer district and pertinent data with relation to the number of residences and businesses that could be served so that these can be considered from a funding standpoint.

2. I would also appreciate receiving a copy of the map showing existing and contemplated services.

On receipt of your letter and information, I will proceed on the following basis.

1. Contact Mr. Smith relative to any cooperative efforts.

2. Contact the spokesman for the Parkcrest Village area relative to those areas and residences, businesses, etc. that would be served by such a district.

3. Pursue the necessary fundings for the project.

4. Work closely with you and your group relative to finalizing a program on a private basis with your assistance, utilizing a professional design engineer and contractor services.

PUBLIC WORKS DEPARTMENT
CITY OF SPRINGFIELD

D.G.S.		R.E.H.		SEE ME	
G.D.W.		W.J.M.		INFO. ONLY	
D.E.S.		E.E.N.		FILE	
J.H.B.		R.R.S.		PLEASE HANDLE	

Glenstone Square, Suite H — 1740 H South Glenstone — Springfield, Missouri 65804 — (417) 881-7609

Mr. David Schneider
Director of Public Works
830 Boonville
Springfield, Mo.

I will look forward to hearing from you so this matter can be pursued further.

Thank you again for your time and consideration.

Sincerely,

R. W. Bitter

R. W. Bitter
President
AgCon Co.

RWB/dlh

cc: Dr. Roger Bright
Mr. Burris
Mr. Schaffer

CITY OF SPRINGFIELD

August 28, 1974

City Hall
830 Boonville Avenue
Springfield, Missouri 65802
417-865-1611

Mr. Arthur W. Blume
642 West Sylvania
Springfield, Missouri

Dear Mr. Blume:

This is with reference to our conversation, last Monday night, concerning the problems with the Park Crest Lagoon owned by Mr. Tom Smith.

I have asked Mr. Schaefer to report to me on the status of this particular problem and I have attached a copy of his report for your information. I might add that there will be a meeting between Mr. Smith, Mr. Burris and Mr. Schaefer this Friday concerning this lagoon and after a field investigation, yesterday, I can assure you we are going to hold a firm position to insure that compliance is begun to alleviate the odors being experienced and to make this lagoon a workable facility.

It is also our understanding that the Clean Water Commission is very concerned about this problem; so, we anticipate further cooperation on their part also.

We will be keeping Mr. Busch current on the status of this situation so that he will be knowledgeable of the progress being taken to alleviate this problem.

You also asked about the new Dental Clinic on Campbell just south of the shopping center. The plans as finally approved provide that the Dental Clinic will discharge all sewage into a closed container and that it will be, then, periodically pumped from this container by a septic tank company and taken to the Northwest Sewage Treatment Plant for disposal. It will not discharge into the lagoon or to any other area but will be contained on the property. Eventually, it will, of course, tie into our sewer system and in this area this is the Ward Branch Trunk Line.

If you have any further questions, we will, of course, be happy to provide the answers concerning this or any other subject you may desire.

Very truly yours,

David G. Snider, P.E.
Director of Public Works

DGS/ec
Attachment
cc: Don Busch
City Manager

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE August 27, 1974

DEPARTMENT Director of Public Works

Re: Park Crest Lagoon

I talked with Jim Burris, Missouri Clean Water Commission, this date concerning the Park Crest Lagoon located at the Southwest corner of the intersection of Campbell Avenue and Republic Street. I had spoken with Mr. Burris a few weeks ago after Mr. Blume had informed me that many residents in the area were complaining about odors from the lagoon.

The Missouri Clean Water Commission wrote Mr. Tom Smith, owner of the treatment facility, a letter on June 5, 1974 indicating that they had received complaints about odors from the lagoon. The Missouri Clean Water Commission inspected the treatment facility after Mr. Criswell and I talked to them about the information we had received from Mr. Blume. They sent Mr. Smith a "Report of Inspection" dated August 14, 1974, which outlined that the plant was not receiving proper maintenance and was not operating satisfactorily. Mr. Smith was told to contract with a firm with knowledge of sewage treatment to improve the operation of the treatment facility. They have not heard from Mr. Smith since sending this report. Normally the MCWC would reinspect the facility about September 14, 1974.

The treatment facility consists of a package extended aeration facility which discharges into a three cell lagoon. If the package plant is sized properly and is operated properly, there should be no reason for odor problems to occur. The lagoon is, however, in a sinkhole area which is certainly not an acceptable location for a sewage lagoon. I have requested that Mr. Burris contact Mr. Smith to set up a meeting which I would attend. If Mr. Burris and I can persuade Mr. Smith to operate this facility properly, I feel that no further problems will occur. This facility could then be used until Ward Branch Trunk Sewer is available.

I will keep you informed of any further action in this matter.

RRS:cc

SIGNED Robert R. Schaefer

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE August 27, 1974

DEPARTMENT Director of Public Works

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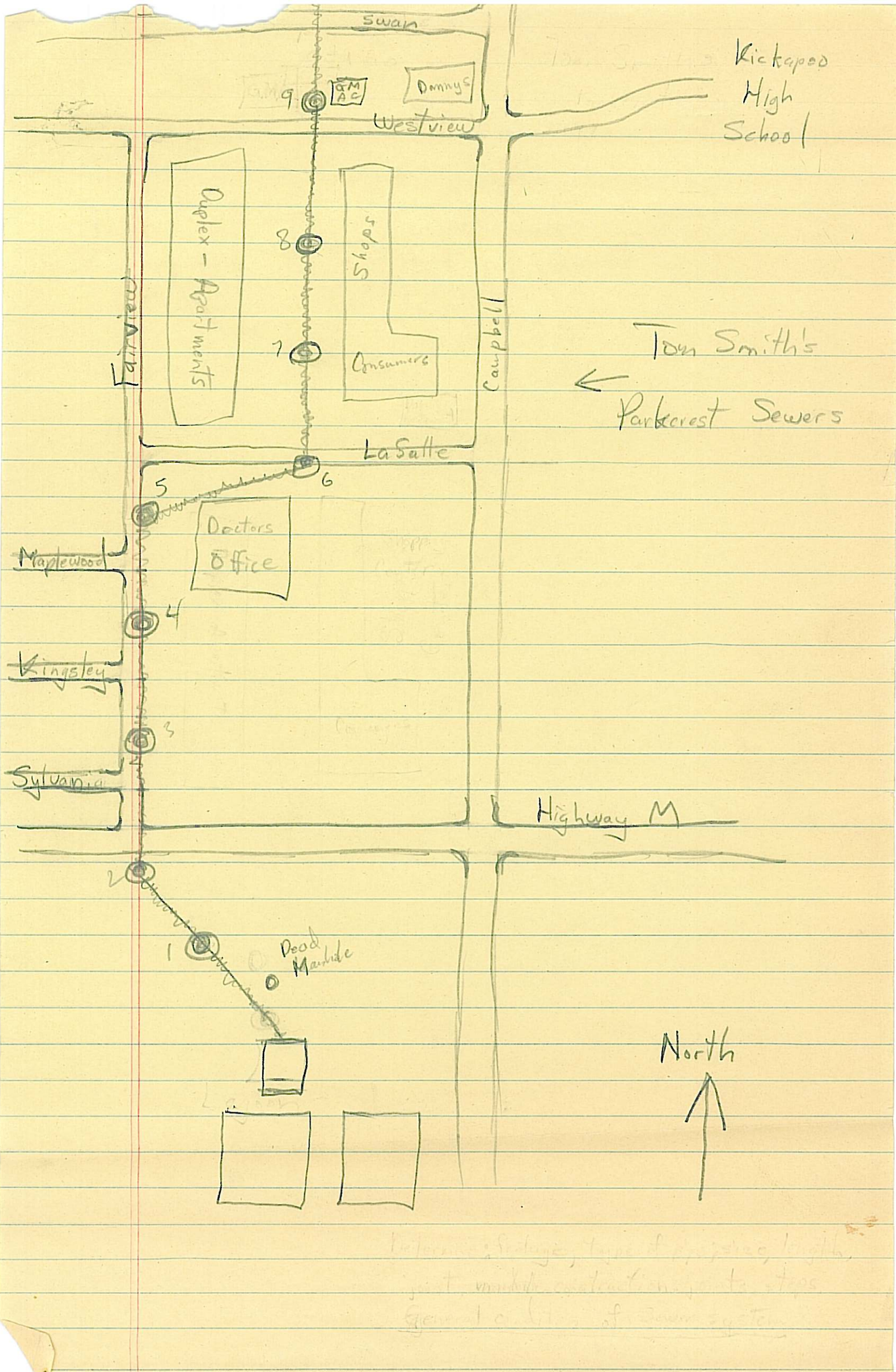
I will keep you informed of any further action in this matter.

RRS:cc

SIGNED Robert R. Schaefer, Jr.

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services


Swan
Kickapoo High School
AM AC
Dannys
9
Westview
Oaplex - Apartments
Shops
8
7
Consumers
Fairview
Campbell
Tom Smith's
Parkcrest Sewers
LaSalle
6
5
Doctors Office
Maplewood
4
Kingsley
3
Sylvania
Highway M
2
1
Dead Manhole
North

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer DATE October 4, 1976

DEPARTMENT Sanitary Services

Re: Parkcrest Treatment Plant

The following observations were made during inspections on the dates indicated:

DATE	LAGOON LEVELS	DO ppm TANK	DO ppm EFFL.	S.S. TANK	S.S. RETURN	CHLORINE ppm TOTAL	CHLORINE ppm FREE	NOTES
8-6	locked	0.4	0.2	900	610	0.1	0	Comminutor back on, clogged but cleaned out while we were there; no signs on fence; brown color w/foam.
8-13		0.3	0.3	650	400	0.2	0	Chlorinator- 1 drop every min & 50 sec; brown w/ lots of foam & filamentous solids.
8-20		0.2	0.3	650	530			Tank down ca. 12"; no effluent in troughs; water running out very murky w/ lots of solids; chlorine dripping into empty trough.
8-27		0.2	0.3	440	400	0.25	0.025	Green tint in tank, back up to normal level.
9-3		0.6	1.3	680	450	0.5	0.1	Brown foam in tank - half way across; clear effluent; 2 blowers, chlorine residual OK for 1st time.
9-10		0.4	0.8	improper setting				Brown foam in tank ½ across - very filamentous; effluent clear w/ few solids; 2 blowers.
10-1		0.6	0.4	550	370	0.7	0.05	Heavy foam; effluent w/ lots of solids. no signs on fence - DNR notified.

:mh

SIGNED_____
Robert Corson, Water Pollution Control
Inspector, Surveillance & Enforcement

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer DATE August 3, 1976

DEPARTMENT Sanitary Services

Re: Parkcrest Treatment Plant

The following observations were made during inspections on the dates indicated:

DATE	LAGOON LEVELS I	II	III	DO ppm tank	effl.	S.S. tank	return	CHLORINE ppm total	free	NOTES
6/3	18 "	28 "	27 "	0	0	870	890	-	-	Green color in both tanks; fairly strong odor; grease floating in #I
6/11	18 3/4"	26½"	24½"	0	0	880	970			Lagoon; comminutor stopped up; lime in #I; 2 blowers on.
6/18	18½"	25½"	22 3/4	0	0	280	400	-	-	2 blowers in; green color throughout; Cl_2 added - a tub filled with liquid which drips via tube into final clarifier - 42 drops/min.; return pump full on.
6/25	18½"	ruler gone	27½"	0	0	350	500	-	-	II discharging over SE corner of dike; 2 blowers on; green color; comminutor clogged; 10 drops/min. Cl_2; return full on.
7/2	19 "	-	26 3/4"	0.3	0.2	570	610	-	-	II discharging SE corner; 2 blowers on; green color.
7/9	19½"	-	27½"	0.25	0.3	360	580	0.25	0	II discharging SE corner; 2 blowers on; brown color inttank; final clearing up - not bad; return not "charging" so badly.
7/16	18½"	-	28½"	0.3	0.1±	550	550	-	-	II repaired - no longer discharging; fence started - corner posts in; 4 dead bluegill in II.
7/23	18½"	-	28½"	0.1	0.3	730	820	1.3	0.7-0.8	2 blowers on; comminutor gone; fence up - no gate - no signs; brownish-green; strong odor; effluent very cloudy, had to be diluted to read Cl_2 - stunk!
7/30	locked			0.2	0.1	640	560	0.1	0.05	No comminutor; fence completed w/gate but no signs; level in II & III near top; effluent fairly clear but w/lots of solids.

SIGNED
Robert Corson, Water Pollution Control
Inspector III, Surveillance & Enforcement

12
Springfield Mo Daily News
June 14, 1976

PSC drops developer's request

Agreement is reached concerning sewage facility

The Public Service Commission (PSC) has dismissed a request by Springfield developer Tom Smith for permission to abandon his Parkcrest sewage facility in southwest Springfield.

Dismissal does not mean the city will drop its PSC complaint against Smith's Village Park Heights Water Company, which operates a sewage treatment facility southwest of the intersection of Greene County M and Campbell.

"We have no agreement with Tom Smith," said City Attorney Howard Wright.

Wright, who filed the complaint accusing Smith's facility of polluting the ground water system, said the city is not a party to Smith's agreement with the Department of Natural Resources because it provides no assurance that the plant will operate satisfactorily.

The agreement, ratified by the state Clean Water Commission May 27, provides a timetable under which the plant will be improved.

Installation of a grease trap to pretreat the discharge from Danny's Restaurant, sealing off the three-cell lagoon, construction of run-off diversion ditches and fencing and installation of a chlorinator to disinfect the wastewater from the plant were cited in the agreement.

Smith also agreed to withdraw the PSC request, connect no more customers to his system and sign a notarized statement to the effect that he will abandon the Parkcrest facility and connect sewage lines to city facilities within 90 days of their availability.

Completion of the Ward branch trunk sewer, which would make the system available to Parkcrest is expected in early 1978 or at least by the summer of that year.

In return for providing those assurances to the Department of Natural Resources, Smith was allowed to connect his system to a new ice cream parlor on the Parkcrest shopping center.

The owner of the ice cream parlor had filed a complaint with the PSC in an attempt to force Smith to allow it to be connected, while at the same time the department was enforcing an abatement order against Smith which prohibited the ice cream parlor from being connected.

Sources say the new agreement has been approved by the Environmental Protection Agency, but it will not bring Smith's plant into compliance with the federal clean water standards due on July 1, 1977.

Congress is being asked to allow the states to deal with those standards and extend deadlines on a case-by-case basis, and is expected to decide that issue within a month.

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer, P.E. DATE June 7, 1976

DEPARTMENT Sanitary Services

Re: Tom Smith's Treatment Plant
June 4, 1976
3:00 P.M.

Results of inspection of Treatment facilities are as follows:

1. Color in both aeration Tank and final Tank was light green.
2. Heavy amount of solids floating in chlorine chamber.
3. Amount of D.O. in aereation tank was 0 ppm.
4. Amount of D.O. in chlorine chamber was 0 ppm.
5. Settleable solids in aereation tank - 870.
6. Settleable solids from return - 890.
7. Two blowers were operating at the time of inspection.
8. Lagoon was not discharging at the time of inspection.

BC:mh

SIGNED
Bob Corson, Water Pollution Control
Inspector III, Surveillance & Enforcement

CHRISTOPHER S. BOND
GOVERNOR

JAMES L. WILSON
DIRECTOR

missouri department of natural resources

1014 Madison St.
P.O. Box 1368 Jefferson City, Missouri 65101 314-751-3241

3.100 Greene County
Park Crest Subdivision

May 20, 1976

Mr. Tom Smith, President
Villa Park Heights Water Company
Route 4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

This letter is to confirm meetings of May 13 and 14, 1976. After a brief inspection of the wastewater treatment facilities serving the Park Crest Subdivision, representatives of the Missouri Department of Natural Resources and Missouri Public Service Commission, met with you and your attorney regarding an informal complaint filed with the Public Service Commission by Mr. Jim Sivil. In order to address the complaint, it was necessary to discuss an abatement order issued by the Department which prohibited any additional connection to, or loadings to the Park Crest wastewater treatment system.

In order to allow the connection of the ice cream parlor, as per the complaint filed by Mr. Sivil, the following terms were agreed upon by all parties previously mentioned:

1. This agency shall be provided with a reasonable timetable for the completion of the following terms. This may be accomplished by filling in the blanks provided in each condition and returning a completed copy of the document, as provided, to this office within two weeks of this date. This agreement shall not become final until formal approval of the timetable has been given by this agency for the following:

   a. A grease trap shall be installed to pretreat the discharge from Danny's Restaurant - with the owner and/or yourself (company) providing for proper operation and maintenance. The grease trap shall be installed and operational by June 15, 1976. ok

   b. This agency will receive certified percolation test results from a registered professional engineer for the three lagoon cells providing wastewater treatment at the Park Crest facility. These test results shall be submitted by June 15, 1976, weather permitting. ok

Division of Environmental Quality

Kenneth M. Korch, Director

c. Should the test results show that a lagoon cell(s) is allowing a percolation rate greater than ¼" per day, that said cell(s) will be properly sealed, in accordance with the requirements of this agency, ~~xxxxxxxxxxxx~~ (K zxzxzxzxzxzxzxzxzxzx~~xxxx~~ within a reasonable time, giving due regard to the nature of the work required.

d. Surface runoff diversion ditches shall be constructed on the north and west slopes of the lagoon area, so as to prevent rainwater from entering the lagoon system. This construction shall be completed by June 15 , 1976. AK

e. A chlorinator be installed so as to provide adequate disinfection of the wastewater. Chlorinated effluent shall contain a free residual chlorine concentration between .1 and .5 mg/l. Disinfection of the final effluent shall begin by _____, 1976. (See attached sheet
MET ONLY ONCE

f. Adequate fencing shall be erected as required in the "Guide for Design of Small Sewage Works" (copy enclosed) and defined by the Missouri Clean Water Commission in the enclosed policy statement: Fencing shall be in place by July 1 , 1976. NONE AS OF 10CT 76

2. That this would be the only additional connection allowed to the Park Crest wastewater treatment system.

3. Villa Park Heights Water Company will withdraw its application presently pending before the Missouri Public Service Commission wherein said company is requesting authorization to abandon the Park Crest Subdivision wastewater treatment facility concurrently with the City of Springfield as the city withdraws its answer to said application.

4. Villa Park Heights Water Company shall provide this agency with a notorized statement to the effect that they will abandon the Park Crest wastewater treatment facility and connect such sewerage lines to city facilities within 90 days of their availability (specifically the Ward Branch Trunk or others as per their availability). That said company and the City of Springfield shall work in a cooperative manner in providing municipal collection systems to serve this area.

The foregoing agreement is contingent upon the adoption of the enclosed policy statement by the Missouri Clean Water Commission at their May 27, 1976, meeting. Any changes to said document by the Commission will necessitate a review of this agreement. Furthermore, this document is contingent upon Federal authorization for the State to extend July 1, 1977, deadlines on a case by case basis.

Yours truly,

James P. Odendahl, P. E.
Director of Staff
Missouri Clean Water Commission

JPO/SDT/ls

Sheet 2, paragraph (e).

(e) Disinfection of the final effluent shall begin as soon as practical, depending on delivery date. The chlorinator has been purchased, and delivery is expected in the very near future. Estimated date of completion of chlorinator--June 20, 1976.

3.100 Greene County
Parkcrest Subdivision

CERTIFIED MAIL

March 16, 1976

Mr. Tom Smith, President
Villa Park Heights Water Company
Route 4, Box 883
Springfield, MO 65802

Dear Mr. Smith:

ABATEMENT ORDER

Under the authority of Chapter 204 (copy enclosed) of the Revised Statutes of Missouri, you are hereby ordered to cease violation of Section 204.076 of the Revised Statutes of Missouri.

Section 204.076.1 was and is being violated by your failure to submit to this agency Engineering Reports as specified in the above referenced permit, Schedule of Compliance, Page 3, A.1 due September 1, 1975, and completed detailed engineering plans and specifications due February 1, 1976 or as specified in B of your Schedule of Compliance an Analysis Report due September 15, 1975, a completed Engineering Report due November 1, 1975, and completed detailed engineering plans and specifications for improved sewerage works by March 6, 1976. In addition, you have failed to submit quarterly monitoring reports as specified on Page 2 of the above referenced permit, the first report being due October 28, 1975.

On March 5, 1976, representatives of the Missouri Department of Natural Resources, Water Quality Program met with representatives of the Parkcrest Subdivision to discuss the above violations. It was determined on that date that a registered professional engineer would be obtained by March 12, 1976 to provide this agency with all necessary reports. Representatives of the Parkcrest Subdivision were informed that enforcement would be stayed pending notification that an engineer had been retained. As of this date, the required information has not been received.

In order to prevent the continued violation of 204.076.1, you are hereby ordered to submit the applicable information as required under NPDES permit number MO-0084964, and to cease additional connections to and additional loadings of the wastewater treatment facility serving the Parkcrest Subdivision until formal authorization is received from the Missouri Department of Natural Resources.

Pursuant to Section 204.056.3, you may appeal this order within 30 days. Failure to appeal within the time allowed will result in this order becoming final, and enforceable as provided by law.

Yours truly,

James L. Wilson, Director
Department of Natural Resources

JLW/SDT/pw

Enclosure

cc: Louis Cowan, Attorney
Howard C. Wright, Jr., Attorney
Bob Schaefer, City of Springfield
Bill Sankpill, Public Service Commission
John Nixon, Springfield Regional Office

Springfield Regional Office, 1155 East Cherokee
Springfield, Missouri 65807 417 883-4033

3.100 Greene County
Parkcrest Subdivision

December 16, 1975

Mr. David Snider, P.E.
Director of Public Works
City Hall
830 Boonville
Springfield, Missouri 65802

Dear Mr. Snider:

We are enclosing herewith a copy of Mr. Tom Smith's letter to us dated December 2, 1975, concerning the sewage treatment plant and lagoon in Parkcrest Village.

This facility is currently in violation of the Schedule of Compliance as outlined in NPDES Permit No. MO-0084964, a copy of which was provided to the city.

Could you please advise us as to the city's current intentions regarding this facility?

Yours truly,

John R. Nixon, P.E.
Acting Regional Administrator
Springfield Regional Office
Department of Natural Resources

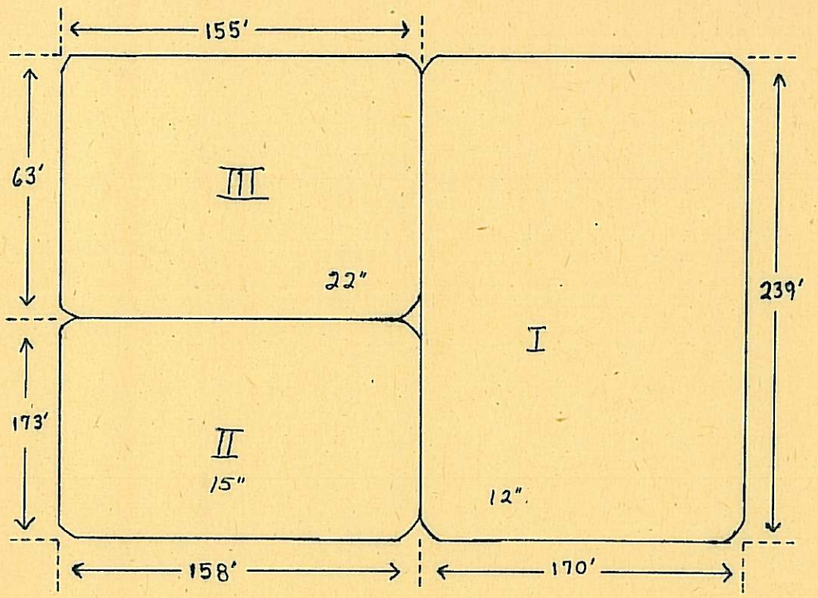
JRN:OM:cm

encl.

cc: Robert Schaefer, Sanitary Dept.
Howard Wright, City Attorney
Water Quality Program - Steve Townley
Water Quality Program

74,800.00 ÷
13.00 =
5,523.07 *
5,523.07 ÷
30.00 =
1,917.43 *
1,917.43 X
7.48 =
14,342.42 *
14,342.42 ÷
100.00 =
1,917.43 *
143.42 √
0.00 *
74,478.00 ÷
13.00 =
5,575.23 *
5,575.23 ÷
30.00 =
19.17 *
19.17 X
7.48 =
143.42 *

0.00 √
19.17 X
100.00 =
1,917.43 *
1,917.43 X
7.48 =
14,342.37 *



influent

I 40630 sq. ft. = 5,850,720 sq. in.
1 in. drop =3385 cu. ft. x 7.48 = 25,326 gals.

II 27,334 sq. ft. = 3,936,096 sq. in.
1 in. drop = 2227.83 cu. ft. x 7.48 = 17,038 gals.

III 9765 sq. ft. = 1,406,160 sq. in.
1" drop 813.75 cu. ft. x 7.48 = 6,086.85 gals.

1 Lagoons are leaking and the first one is loaded with solids.
2 Final tank is in bad need of cleaning.
3 Chlorine contact tank is in need of repair
4 Solids waste rate is to great.
5' Air in Aeration tanks is to High And their are to many solids and no way to remove them.
6 This plant with its lagoons are in too bad a condition for the city to operate it And get proper removal at a price that would come close to equaling its return.

1/1-76

Consumers markets mk
2900 E. Sunshine
20-16-04900

38	43
43	56
50	46
40	57
40	53
45	63
43	

David P. Glass
2930 E. Sunshine
20-16-05111

Swansons

	18
40	40
	23
	Jan 30
	93

S.S.S. Inc
2920 E. Sunshine
20-16-05001

5	5
5	9
0	3
2	3
2	3
3	3
2	

John Bowman
2932 E. Sunshine
20-16-05121

210
184
184
118

John G. Hammons
2924 E. Sunshine
20-16-05100

19	6
22	5
55	21
32	22
26	19
15	22
26	

Glidden Co
2940 E. Sunshine
20-16-05141

30
3

Total ccf for 13 months 7478

Total ccf per month 575.23

Total ccf per day 19.1743

Total fals per day 14,342

ccf average per customer per month 14.03

4-9-0710

507 Westview - 4-32-15701 - Parkcrest Manor
6-5-1510 510 Westview - 3-50-15100 -
6-5-0740 3818 Fairview - 3-50-07404)
3826 " -3-50-07501 }- 1 Building
3830 " - 3-50-07600)
3834 " - 3-50-07700)
3838 " - 3-50-07803 }- 1 Building
3842 " - 3-50-07902)
3852 " - 3-50-08000)
3854 " - 3-50-08102 }- 1 Building
3904 " - 3-50-08200)
3906 " - 3-50-08301 }- 1 Building
3916 " - 3-50-08400)
3918 " - 3-50-08502 }- 1 Building
3930 " - 3-50-08603)
3932 " - 3-50-08701 }- 1 Building
3940 " - 3-50-08803)
3942 " - 3-50-08902 }- 1 Building
City Utilities Water Dept. 10
E only 3952 " - 3-50-09000) No water or sewer
}- 1 Building
3952 " - 3-50-09101) Water Springfield Computer Consultants.

Water Consumption Records

	3801 S. Campbell	-	-	
6-9-1005	3807 S. Campbell	-	4-32-09100	- Danny's Restraunt
	3811 "	"	- 4-32-09000	- G.M.A.C.
ABCDE	3821 "	"	- 3-50-12000	- Dentists
	3823 "	"	- 3-50-11901	- Doctor
	3825 "	"	- 3-50-11801	- Appliance
	3829 "	"	- 3-50-11701	- Vet. Hosp.
	3833 "	"	- 3-50-11600	- Studio
	3837 "	"	- 3-50-11500	- Floor Covering
	3841 "	"	- 3-50-11400	- Lamp & Shade
	3845 "	"	- 3-50-11200	- Fabric Mart
	3849 "	"	- 3-50-11100	- Radford
	3851 "	"	- 3-50-11000	- Glo Cleaners
E&G	3853	"	- 3-50-10901	- Laundry
	3857A	"	- 3-50-10400	- Barber Shop
	3857B	"	- 3-50-10500	- Beauty Shop
E&G only	3857C	"	- 3-50-10700	- Electrolux
EE&G only	3857D	"	- 3-50-10801	- Card's Shop
E&G only	3863A	"	- 3-50-10300	- Bane & Rosenbaum
E&G only	3863B	"	- 3-50-10200	- Sifferman
E&G only	3863C	"	- 3-50-10100	- Lad & Lass
E&G only	3863D	"	- 3-50-10000	- Freeman's
E&G only	3863E	"	- 3-50-09900	-
	3865	"	- 3-50-09800	- Farris
	3867	"	- 3-50-09702	- Shoe Corral
E only	3867	"	- 3-50-09603	- V account
	3873	"	- 3-50-09500	- Pharmacy
	3903	"	- 3-50-09400	- Coast to Coast
No account	3905	"	-	- Showtime Magazine
	3909	"	- 3-50-09301	- Ben Franklin
6-5-0920	3951	"	- 3-50-09200	- Consumer's
	3857	"	- 3-50-10551	-
	3857	"	- 3-50-10600	-

Memo: Robert R. Schaefer Sept. 4, 1974
Re: Parkcrest Package Plant

Inspection on Sept. 4, 1974 at 10:20 A.M. produced these findings:

1. The aeration portion of the plant was grey in color.
2. Spray system was not in operation.
3. Skimmer was not working. Solids is building up again. Return bludge line is taking in liquid primarily and sludge is remaining in final tank.
4. Final clarifiers are approximately 80% clogged with solids.
5. Odor was present but did not seem to be a septic odor at this time.

J. Randall Lyman
Water Pollution Contol Inspector

Investigation of Parkcrest Treatment Facility

1. Determine instantaneous flow into treatment plant and out of lagoon. Check with CU to determine past water usage of bldgs. connected to sewer line.
2. Determine influent strength.
3. Determine strength lf lagoon effluent.
4. Determine how many lbs. of solids are neede in aeration chamber.
5. Haul solids and monitor plant efficiency on a daily basis.
6. Check lagoon efficiency on a daily basis.
7. Find out plant capacity.

---

2 fourplex's
6 duplex's
17 unit apartment house
Shopping Center
Restaurant

Clifford A. Phillips
3818 S. Fairview
3-50-07404
Ave. -38-

10-73-0		5-74-4	
11	1	6	3
12	2	7	4
1-74-4		8	3
2	4	9	4
3	2	10	3
4	4		

Don R. Codle
3826 S. Fairview
3-50-07501
Ave. -61-

3	3
4	5
5	9
5	8
5	3
5	3
3	

Sarah E. Gaeller
3830 S. Fairview
3-50-07600
Ave. -28-

2	2
2	2
2	3
2	1
3	3
2	2
2	

Wilson E. Bond
3852 S. Fairview
3-50-08000
Ave. -86-

6	6
6	7
6	7
7	7
8	7
5	7
7	

Fontaine F. Freeman
3854 S. Fairview
3-50-08102
Ave. -99-

10	8
5	8
8	5
8	7
9	7
9	6
9	

Ann R. Farthing
3834 S. Fairview
3-50-07700
Ave. -37-

3	2
2	4
2	3
4	3
3	3
3	2
3	

Bruce D. Chrisope
3838 S. Fairview
3-50-07803
Ave. -37- Only 12 readings

2	3
2	3
2	-
3	6
2	5
2	5
2	

Nelson T. Morrison
3842 S. Fairview
3-50-07902
Ave. -60-

5	5
5	4
5	6
3	5
4	5
5	4
4	

Sam. A. Malone
3906 S. Fairview
3-50-08301
Ave. -90-

8	6
6	8
6	9
5	10
7	6
6	7
6	

I. E. Medley
3916 S. Fairview
3-50-08400
Ave. -71-

5	5
6	4
5	7
5	7
6	6
5	5
5	

Mills D. Kidd
3904 S. Fairview
3-50-08200
Ave. -87-

10	5
7	9
6	11
6	5
6	6
5	5
6	

C. G. Medenhall
3930 S. Fiarview
3-50-08603
-35-

3	2
4	3
5	3
2	1
5	2
3	3
2	

Helene H. Wilson
3932 S. Fairview
3-50-08701
-67-

5	5
5	6
5	6
5	7
6	4
5	3
5	

Larry D. Clutter
3940 S. Fairview
3-50-08804
-61-

5	6
5	3
5	9
6	1
5	3
5	4
4	

S.S.S. Inc.
3909 S. Campbell
3-50-09301
-79-

8	5
8	6
8	5
5	5
5	6
5	8
5	

Eugene Schmidt
3918 S. Fairview
3-50-08502
Ave. -77-

5	5
5	7
5	6
6	7
7	6
5	6
7	

Sue R. Dosch
3942 S. Fairview
3-50-08902
-36-

1	3
3	2
3	3
3	4
3	4
2	2
3	

Joseph S. Greene
3952 S. Fairview
3-50-09101
-59-

3	5
2	5
2	5
3	9
5	5
3	7
5	

Consumers Mkt. Inc.
3951 S. Campbell
3-50-09200
-720-

50	46
56	67
42	65
43	73
37	85
42	71
43	

Joe F. Bell
3867 S. Campbell
3-50-09702
-125-

6	2
2	32
2	44
2	14
3	13
2	1
2	

Parkcrest Coast
3903 S. Campbell
3-50-09400
-15-

1	1
1	1
2	1
1	1
1	1
1	2
1	

Parkcrest Pharmoc.
3873 S. Campbell
3-50-09500
-46-

2	8
2	1
2	2
2	1
1	1
2	2
20	

Parkcrest Beauty
3857 S. Campbell B
3-50-10500
-371-

30	25
32	26
36	27
25	28
28	31
28	26
29	

Virgil V. Renfroe
3857 S. Campbell
3-50-10552
-1610-

141	142
123	145
136	158
109	148
124	
114	145 62 days
125	

Parkcrest Dev. Co. Inc.
3857 S. Campbell
3-50-10600
-282-

25	37
27	27
30	4
25	7
31	4
28	4
33	

Farris Bros. Inc.
3865 S. Campbell
3-50-09800
-44-

3	3
2	4
4	4
3	3
4	5
3	3
3	

Parkcrest Barb. Sh.
3857 S. Campbell A
3-50-10400
-44-

2	3
3	3
3	4
3	5
4	4
3	3
4	

Morris Equipment
3851 S. Campbell
3-50-11000
-97-

20	3
19	5
6	8
8	5
3	4
4	8
4	

Radford Jewelers
3849 S. Campbell
3-50-11100
-37-

3	2
3	3
4	2
2	3
4	4
2	2
3	

Nahon and Sons Inc.
3845 S. Campbell
3-50-11200
-27-

2	2
2	2
3	2
2	2
2	3
1	2
2	

Parkcrest Lamp Shade
3841 S. Campbell
3-50-11400
-110-

1	1
2	1
2	1
3	1
72	1
23	1
1	

Steve Cantrell
3837 S. Campbell
3-50-11500
-21-

2	2
1	1
2	2
2	1
2	2
2	1
1	

Studio Theatre
3833 S. Campbell
3-50-11600
-91-

8	6
7	6
6	7
7	7
8	7
7	9
6	

Parkcrest Dev. Co Inc
3821 S. Campbell
3-50-12000
-443-

27	26
28	39
32	39
21	46
29	45
31	45
35	

John P. Wilson
510 W. Westview
3-50-15100
-29-

2	2
3	3
3	1
3	2
2	2
2	2
2	

Leonard W. West
3829 S. Campbell
3-50-11701
-28-

3	3
3	2
1	3
2	2
2	2
1	2
2	

Home Decor By Jacquie
3825 S. Campbell
3-50-11801
-32-

3	1
3	1
5	1
5	1
7	1
2	1
1	

Harold A. Bouer
3823 S. Campbell
3-50-11091
-23-

2	2
2	1
2	1
2	2
3	1
2	1
2	

Daniel J. Baker
3807 S. Campbell
4-32-09100
-1695-

110	124
120	115
183	136
187	165
101	112
118	112
112	

Lester L. Cox
507 W. Westview
4-32-15701
-359-

7	32
-	30
-	25
15 81days	28
5	72
35	85
25	

Parkcrest Dev. Co. Inc.
3811 S. Campbell
4-32-09000
-121-

8	11
7	7
8	8
11	8
9	7
11	8
18	

10-24							
Raw	158	73	7.58	2%	90	-31.6%	-80.8%
Final	208	132	7.62				
Aeration				2%	90		
10-25							
Raw	550	553	6.86				

Clifford A. Phillips
3818 S. Fairview
6-05-07400

2.92
38

2	75	3	9
3		3	10
4		3	11
5		3	12
6		3	1-7-76
7		2	2
8		5	
			1
			0
			4
			4
			4
			3

Ann R. Farthing
3834 S. Fairview
6-05-07700

36 2

2	1
3	4
3	2
3	3
3	4
2	1
5	

Don R. Codle
3826 S. Fairview
6-05-07500

5.8
76

4	9
3	6
4	7
6	7
5	8
6	6
5	

Mary Ellen Carter
3838 S. Fairview
6-05-07801

4.5
59

4	4
4	5
5	4
5	6
6	5
5	1
5	

Sarah E. Goeller
3830 S. Fairview
6-05-07600

29

2	3
2	2
2	3
2	2
2	2
2	3
2	

John P. Wilson
3842 S. Fairview
6-05-07800

46

2	6
2	6
3	7
2	7
8	8
4	6
5	

Wilson E. Bond
3852 S. Fairview
6-05-08000

107

7	7
8	9
8	8
7	8
11	10
8	7
9	

Sam A. Malone
3806 S. Fairview
6-05-08300

92

5	7
6	7
7	7
6	7
8	9
9	6
8	

Paul N. Tedesco
3854 S. Fairview
6-05-08100

67

6	2
7	4
11	3
1	4
3	5
3	3
5	

A. E. Medley
3816 S. Fairview
6-05-08400

76

5	7
5	6
5	5
5	6
7	7
7	6
5	

Mills D. Kidd
3904 S. Fairview
6-05-08200

87

5	11
5	7
7	6
6	9
6	10
4	6
5	

Eugene Schmidt
3918 S. Fairview
6-05-08500

95

5	7
6	5
5	4
6	7
6	7
6	6
5	

C. D. ~~Mendenhall~~ Mendenhall
3730 S. Fairview
6-05-08600

2	3
2	4
2	3
1	3
3	4
3	2
2	

34

Lucile R. Dosch
3942 S. Fairview
6-05-08900

3	1
2	5
3	5
2	5
3	6
4	5
5	

49

Rudolf O. Schellhorn
3932 S. Fairview
6-05-08700

2	0
5	0
4	1
5	0
6	0
0	
0	
~~0~~	

17

Joseph S. Greene
3952 S. Fairview
6-05-09100

5	4
5	5
4	4
5	5
5	5
5	5
5	

42

Claud C. Howley
3940 S. Fairview
6-05-08800

3	5
5	5
3	4
3	6
4	6
4	1
5	

54

Consumers Mkt due
3957 S. Campbell
6-05-09200

75	78
74	95
78	101
74	149
83	119
78	64
78	

1146

S.S.S. Inc
3909 S. Campbell
6-05-09300

91

9	6
7	7
6	9
7	9
6	8
6	6
5	

Joe T. Bell
~~3867~~ 3867 S. Campbell
6-05-09700

24

2	1
5	1
3	2
2	1
2	2
1	2
2	

Parkcrest Coast
3763 S. Campbell
6-05-09400

30

1	2
1	1
1	1
1	1
2	16
1	1
1	

Faris Bros Inc
3865 S. Campbell
6-05-09800

45

3	3
5	2
9	2
6	2
2	4
3	2
2	

Parkcrest Pharmac
3873 S. Campbell
6-05-09500

19

2	1
1	1
1	1
2	2
1	1
2	2
2	

Parkcrest Barb Sh
3857 S. Campbell A
6-05-10400

47

3	1
3	4
3	4
4	4
4	5
3	4
5	

Parkcrest Beauty
3857 S. Campbell
6-05-10500

	37	
24		21
28		28
29		29
28		34
29		39
26		34
28		

Morris Equipment
3851 S. Campbell
6-05-11000

	84	
3		7
3		7
8		6
7		6
10		7
7		5
8		

Mack Daly
3857 S. Campbell
6-05-10550

	1878	
123		159
137		206
145		129
125		148
159		140
155		106
146		

Smith-Woodall Ltd
3849 S. Campbell
6-05-11100

	40	
4		2
4		2
3		~~6~~
4		~~1~~
3		4
2		3
2		

Parkcrest Dev. Co-dec
3857 S. Campbell
6-05-10600

	65	
4		4
4		5
7		5
4		5
5		7
4		6
5		

Nelson and Sons dec
3845 S. Campbell
6-05-11200

	18	
4		1
1		1
1		2
1		1
1		1
1		2
1		

W. T. Appleton
3841 S. Campbell
6-05-11400

0	1
1	1
0	1
0	1
0	1
0	0
0	

4

Leonard W. West
3829 S. Campbell
6-05-11700

2	4
2	4
2	5
2	5
2	6
2	4
2	

42

Heritage Book Store
3837 S. Campbell
6-05-11500

2	3
1	3
1	2
1	3
2	3
0	2
0	

7

3825 S. Campbell
6-05-11800

1	1
1	1
3	
2	
3	
2	
2	

19

Studio Theatre
3833 S. Campbell
6-05-11600

15	7
8	8
8	8
6	8
6	12
5	6
5	

102

Harold A. Bauer
3823 S. Campbell
6-05-11800

1	1
2	1
1	1
1	2
1	1
2	2
1	

17

7

Parkcrest Dev co. duc
3821 S. Campbell
6-05-12000

313

16	31
25	26
28	37
20	27
14	30
17	25
17	

Daniel J. Baker
3807 S. Campbell
6-09-10050

1542

98	175
94	118
102	105
105	116
145	124
134	108
128	

Otto Schleicher
510 W. Westview
6-05-15101

54

4	5
5	4
4	2
4	9
4	1
5	2
5	

Lester L. Cox
507 W. Westview
6-09-09550

841

63	49
61	66
71	60
65	72
80	73
57	57
67	

Park crest Dev co. duc
3811 S. Campbell
6-09-10000

97

7	9
8	6
8	8
12	8
6	9
6	5
5	

7935
Avg CCF per month
~~610.3841~~

Don:

CITIZEN COMPLAINT

0427

Date Received Continual

Name Many citizens of Parkcrest Area. Tom Smith Phone 869-1777

Address

Location and Nature of Complaint Terrible ordors from the lagoon located in southwest quadrant of Campbell-HiWay M intersection. Owner is ~~XXXX~~ Parkcrest Developer, Tom Smith. This complaint is ongoing and Mr. Snider and his staff are aware of problem. Citizens ~~are not complaining about Mr. Snider's efforts in this matter, only Mr. Smith's reluctance to correct situation. I feel Mr. Snider is coping with problem as effectively as he can within his area~~ of responsibility and authority. This report is for your information and continued support of Mr. Snider's efforts. A. W. Blume III

Councilmember Zone 3 10-16-74

Note: Some citizen's have mentioned class action suits.

Parkcrest Wastewater Treatment Facility

(1) Package Treatment Plant of unknown capacity and dual cell lagoon of unknown size.

(2) Influent flow and strength unknown

(3) Mr Zon Smith owns the sewer lines, treatment plant, lagoons and the property where the treatment facility is located.

(4) Mr Smith charges a sewer use fee.

(5) The lagoon serves the shopping center and approximately 10 duplex apartments.

(6) The PSC and the MCWC are threatening to take action against Mr Smith.

(7) A lift station seems to be the

City fighting abandonment try on Parkcrest's sewage facility

May 3, 1976 (Morning Paper)

By MIKE KELLEY
Staff Writer

Developer Tom Smith, pressured by the state Department of Natural Resources to improve his Parkcrest sewage treatment facility in southwest Springfield, has asked the Public Service Commission for permission to abandon the facility and turn it over to the city.

But the city, through its attorney, Howard Wright, has told the PSC that Springfield is "not interested" in taking over operation of the system, and has filed a complaint with the PSC accusing the Parkcrest facility of polluting the ground water system.

The city doesn't want the facility because it would be subject to any penalties that might arise because of Smith's failure to comply with the provisions of his National Pollutant Discharge Elimination (NPDES) permit, Wright said in a reply to the abandonment application.

In the complaint, Wright accused the Parkcrest facility of "serious environmental hazards, including seepage of sewage into ground waters."

★ ★ ★

Smith refuses to discuss the charge, saying: "We'll try it before the Public Service Commission when the time comes."

Documents on file with the Department of Natural Resources regional office would seem to support Wright's charge, an examination by The Leader and Press confirms.

Smith, who also has butted heads with the DNR over the sewage treatment facility he constructed for a subdivision northwest of Springfield known as Villa Park Heights, filed the PSC application March 18, two days after the DNR issued an abatement order in connection with the Parkcrest facility.

The DNR charged on March 16 that Smith had violated provisions of his NPDES permit by failing to submit engineering reports which would show that he was attempting to bring the facility into compliance with federal water quality standards due on July 1, 1977.

The DNR said Smith also had failed to submit quarterly monitoring reports on the sewage effluent at the facility, located southwest of the intersection of Greene County M and U.S. 160.

★ ★ ★

He was ordered to submit the information and not to add connections to the existing facility, which reportedly serves the Parkcrest Shopping Center and some nearby residences in the 3800 - 3900 blocks South Belcrest, 500 block West Westview, and 500 block West Swan.

Smith's PSC application two days later, the city alleged, "is but a subterfuge to avoid responsibility under the law."

A spokesperson for the PSC said a hearing probably will be held concerning the application, but a date for it has not yet been set.

Smith's problems with the Department of Natural Resources, and its predecessors, the state Water Pollution Board and Clean Water Commission, date back to Aug. 18, 1960, when a group of petitioners protested his plans to build a sewage lagoon to serve Parkcrest, fearing their wells would be contaminated because of soil conditions in the area, west of Campbell and south of Highway M.

An alternate site for the lagoon was found, but Smith was warned in a letter from the Water Pollution Board that "construction of sewers without first obtaining a construction permit from the (board) is in violation of the Missouri Water Pollution Law."

Finally, on Aug. 24, 1967, Smith got a permit to operate the lagoon, but the Missouri Geological Survey warned the Water Pollution Board in a letter on Sept. 30, 1970, that it was leaking through the bottom into cavernous bedrock. Dye tests showed that the water from the lagoon was flowing into the ground water system and coming up in a small spring on the nearby Ward Branch.

The board instructed Smith on Oct. 21, 1970, to make some corrections, but Smith constructed another facility — a three - cell lagoon with a mechanical sewage treatment device, apparently without obtaining the necessary permits.

In a letter from the Clean Water commission March 21, 1972, Smith was warned that construction of sewage treatment facilities without a construction permit from the commission was a violation of the law. The Water Pollution Board in a letter the next month recommended revocation of Smith's permit.

The permit was revoked July 24, 1972.

Operating the facility without a permit, Smith ran into more troubles with the Clean Water Commission on Sept. 15 of the same year when commission employes Steve Decker and David Duffield were called to the site by Harry Criswell of Springfield's sanitary services division.

The southeast corner of the southeast lagoon cell was overflowing at the rate of about 50 gallons per minute, Duffield reported.

"The construction of this lagoon leaves something to be desired," Duffield said in a report. "It has no surface water diversion, there is no overflow pipe between the cells, the banks aren't seeded, large rocks are on the bottom of the lagoon, vegetation is growing in the third cell. The lagoon is located on the edge of a large sinkhole. The overflow was draining directly to the middle of this sinkhole."

On Sept. 27, Duffield went back to the site and reported effluent overflowing at the rate of 75 gallons per minute. Duffield put some dye in a nearby spring and it showed up in the lagoon overflow two hours later.

In a more complete report on Oct. 19, Duffield pointed out 11 deficiencies in all, including a "geologically unacceptable" site because of the nearby sinkhole, no interconnecting pipes between the cells of the lagoon, no fence around it and no warning signs. Duffield recommended abandoning the lagoon.

Some improvements were made to the facility, the DNR files indicate, but on March 14, 1973, Decker told Smith in a report that he had discovered the mechanical treatment facility was not in operation. An inspection the following month listed seven deficiences, and reports as late as December of 1974 showed the treatment plant still not being maintained as it should be.

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Most of the system was inoperative and no sewage treatment was being accomplished, said DNR water quality specialist Ed Sears in a report dated Dec. 14, 1974.

Earlier the same year, city officials and James Burris, then director of the DNR regional office in Springfield, had inspected the facility with Smith and made several recommendations. But in October of 1974 city officials had report to Smith that residents of the area were complaining about odors which apparently came from the plant and Burris had reported in November that the facility was still overflowing at the rate of 30,000 to 50,000 gallons of effluent a day.

Early in 1975, Public Works Director Dave Snider reported to the DNR that the city had assisted Smith in making some corrections at the plant — but had not taken it over, as that would require money and City Council approval.

Last April, after the DNR was given the ability to issue NPDES permits — with compliance schedules — Smith was issued a permit. But a series of letters to Smith warning him that he was not submitting the necessary data as required by the permit began on Sept. 2, the day after his first report was due.

After six of those letters, Smith finally wrote back that he had no intention of making further improvements in the plant, that he was waiting for the city to construct its Ward Branch trunk sewer and would connect with the sewer when it was constructed.

That stopped the DNR warnings, but officials of the office, told by city officials that the Ward Branch could be years away, reported with the abatement order in March.

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In the meantime, Smith hired Wright and Associates to prepare engineering reports on the system. The engineering firm reported on April 9 that the present system was still inadequate, suggesting that it be abandoned and sewer lines constructed to direct the effluent from Parkcrest to existing city sewer lines.

Smith's sewage lagoon for his Villa Park Heights subdivision northwest of the city also has run into troubles with the DNR, including a Nov. 21, 1974, inspection that turned up several deficiences and resulted in the denial of an operating permit.

The "structure was not completed in accordance with the approved engineering plans," Smith was told in a subsequent letter.

Almost a year later, a letter from the DNR warned Smith that "we would like to again bring to your attention that the development of a subdivision without prior agency approval of the wastewater treatment facilities is a violation of Section 4.02 of the subdivision regulations."

A spokesman for the DNR said that Smith violated the subdivision section by deviating from original engineering plans submitted before the construction permit was issued. Smith has never obtained an operating permit for the Villa Park Heights facility.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
1155 E. Cherokee St. Springfield, Missouri 65807 (417) 883-4033

3.100 Greene County
Parkcrest Subdivision

June 26, 1981

Mr. Tom Moulder
3100 E. Battlefield
Springfield, MO 65804

Dear Mr. Moulder:

This is in response to your request to connect the proposed Steak and Shake Restaurant to the Parkcrest sewage lagoon. It is our understanding that the request is for an approximate discharge of 550 gallons-per-day for a period of 6 to 9 months until municipal sewers are available.

Your request is conditionally approved due to the problems with the alternative to connection. Presently, a septic tank/tile field serves the site which would appear to pose a more significant threat to groundwater than would connection to the lagoon. The conditions of approval include the construction and use of an adequate grease trap and maintenance of the existing septic tank for emergency storage of sewage. The Department may request discontinuance of your use of the lagoon if the restaurant is determined to be causing or significantly contributing to any hydraulic or organic loading condition. In such a case the septic tank would need to be used for storage and pumped out as needed.

Yours truly,

Ed Sears
Environmental Specialist III
Springfield Regional Office
Department of Natural Resources

ES:jh

cc: Mr. Bob Schaefer, City of Springfield
Mr. Randy Lyman, City of Springfield
Mr. Tom Smith, Parkcrest Development Company
Mr. Dennis Hodo, Gordon & Associates

MISSOURI DEPARTMENT OF NATURAL RESOURCES
P.O. Box 1368 2010 Missouri Blvd. Jefferson City, Missouri 65102 (314) 751-3241

NPDES No. MO-0084964
Park Crest Development

Date: August 22, 1980

To: Donald Kelley
City Clerk
Springfield, MO 65802

SUBJECT: Public Notice for proposed NPDES Permit.

Enclosed is a public notice regarding a proposed National Pollutant Discharge Elimination System Authorization to Discharge. It is required that this notice be posted in the "public places of the municipality nearest the premises of the applicant in which the effluent source is located" in accordance with the Federal Register, Section 124.32(a)(1)(i), December 22, 1972. We will appreciate your assistance in posting this notice until the expiration date for public comment stated therein.

In order that we may be assured of fulfilling all legal requirements, we ask that the enclosed card be signed and returned within seven (7) days.

Thank you for your cooperation in this matter.

Yours truly,

Robert H. Hentges
Chief of Permit Section
Water Pollution Control Program

RHH/cl

enclosures

PUBLIC NOTICE
APPLICATION FOR NPDES AUTHORIZATION TO DISCHARGE

DATE: August 22, 1980

In accordance with the National Pollutant Discharge Elimination System, the applicants listed herein have applied for an authorization to discharge to waters of the State. The proposed Permits pending for these discharges are consistent with applicable water quality standards, effluent standards and/or treatment requirements, or suitable timetables to meet these requirements. All permits will be issued for a period of five (5) years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and application of clean water standards and regulations, the Missouri Clean Water Commission (CWC) proposes to issue a Permit(s) to discharge, subject to certain effluent limitations, schedules, and special conditions. Without being specifically mentioned in the notice of permit application, and in the Permit, the proposed Permit will not authorize discharge of any pollutant (above background) (a) other than, or in quantities or concentrations greater than, those specifically listed in the notice, or (b) in hourly quantities greater than one/twenty-fourth (1/24) of the proposed daily capacity stated in the notice multiplied by 2.5 to adjust for peak flows. All analyses and measurements and sampling are to be in accord with specified regulations and procedures, and copies thereof are available to the public at cost from CWC. The temperature of the effluent, except where specifically noted otherwise or where the discharge effluent is used in or comes from a cooling process, will be within the normal range of effluents, that is, it will vary from a wintertime low of 32°F to a summertime high of 90°F. The proposed determinations are tentative pending the public notice process. Persons wishing to comment upon or object to the proposed determinations are invited to submit them in writing to: Department of Natural Resources, Division of Environmental Quality, (Missouri Clean Water Commission), P.O. Box 1368, Jefferson City, MO 65101, ATTN: Robert H. Hentges, Chief of Permit Section. Please include the application number in all comment letters.

All comments received prior to September 22, 1980 will be considered in all formulation of final determinations regarding the applications. If response to this notice indicates significant public interest, public hearing may be held after due notice. Public hearing and/or issuance of the NPDES Permit will be processed according to 10 CSR 20-6.020, March 19, 1976. Copies of all draft permits, comments, and other information are available for inspection and copying at the Department of Natural Resources, Division of Environmental Quality, (Missouri Clean Water Commission), P.O. Box 1368, 2010 Missouri Blvd., Jefferson City, MO 65101, and the Regional Office which recommeded the Permit conditions, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Regional Offices are as follows:

St. Louis Regional Office
8460 Watson Road
St. Louis, MO 63119
(314) 849 1313

Kansas City Regional Office
615 East 13th Street
Kansas City, MO 64106
(816) 274 6675

Springfield Regional Office
1155 East Cherokee
Springfield, MO 65807
(417) 883 4033

Poplar Bluff Regional Office
948 Lester Street
Poplar Bluff, MO 63901
(314) 785 0832

Macon Regional Office
Highway 63 North, P. O. Box 489
Macon, MO 63552
(816) 385 2129

Jefferson City Regional Office
P. O. Box 1368
Jefferson City, MO 65101
(314) 751 2729

RRR

3.100 Greene County
Parkcrest Subdivision

July 18, 1980

Parkcrest Lagoon

Mr. Tom Smith
Parkcrest Development Company
Route 4, Box 883
Springfield, MO 65802

Dear Mr. Smith:

Please find enclosed a copy of this Agency's September 28, 1979 letter to you concerning the expiration and need for application for reissuance of NPDES Permit Number MO-0094964. The permit authorizes the operation of the wastewater treatment facilities serving the Parkcrest Subdivision in Greene County, Missouri.

Although the facilities are to be eliminated in the future it will be necessary for you to obtain an operating permit for the interim period. Because the previous permit has already expired it is important that you respond promptly.

If you have any questions, let us know.

Sincerely,

Charles L. Kroeger

Charles L. Kroeger
Environmental Specialist II
Springfield Regional Office
Department of Natural Resources

CLK/cg

Enclosures

C.C. Mr. Robert Schaefer

MISSOURI DEPARTMENT OF NATURAL RESOURCES
1155 E. Cherokee St. Springfield, Missouri 65804 (417) 883-4033

MISSOURI DEPARTMENT OF NATURAL RESOURCES
P.O. Box 1368 2010 Missouri Blvd. Jefferson City, Missouri 65102 (314) 751-3241

3.100 Greene County
Park Crest Development Company, Inc.
NPDES No. MO-0084964

OCT 2 - 1979

September 28, 1979

Mr. Tom Smith
Route 4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

Your NPDES Permit Number MO-0084964 will be expiring on April 10, 1980. As stated in Missouri Clean Water Regulation 10 CSR 20-6.101, Section (7)3 (F), "Application for renewal shall be filed 180 days prior to the date of existing permit expiration": therefore, you need to apply for the renewal of your permit. The applicant is required to submit with the application current information on the nature of the discharge and the status of compliance with all applicable effluent standards and limitations, water quality standards, and other applicable requirements.

The applicant is also required to forward any information regarding abandonment, non-use, or change of name or ownership of the facility permitted to the Regional Office or the Central Office. If there is any questions as to requirements for an NPDES permit for this facility, please contact our regional office.

Please complete the enclosed application blanks and send one copy with check, money order, or bank draft (cash will not be accepted) for seventy-five dollars ($75.00) payable to the State of Missouri within 30 days to the Central Office at the Jefferson City address.

Should you have any questions pertaining to the renewal of your NPDES Permit, contact either Nancy Woodburn, Permit Section, Water Pollution Control Program, 2010 Missouri Blvd., P.O. Box 1368, Jefferson City, MO 65102, phone (314) 751 3241, or the Springfield Regional Office, 1155 East Cherokee, Springfield MO 65807, phone (417) 883 4033.

Sincerely,

Robert H. Hentges

Robert H. Hentges
Chief of Permit Section
Water Pollution Control Program

RHH/NW/kb

Enc.

cc: Springfield Regional Office

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

file

ATTENTION OF Robert R. Schaefer DATE July 22, 1976

DEPARTMENT Sanitary Services

Re: Tom Smith's Parkcrest subdivision sewer

Approximately 3269 feet of 8 inch presumably all VCP by reason of observed factory molded polyurethane gaskets. All manholes 4 feet diameter precast concrete construction. Grout seal between manhole sections. No visible signs of infiltration/inflow.

4 + 28	M.H.1	First located manhole above treatment facility Above grade 2½ feet approximately 7 feet deep Good steps and invert Lid 25 1/8 inches diameter
6 + 28	M.H.2	First manhole south of Hwy M 8½ feet deep No steps Invert needs contouring to provide adequate channel Lids 23½ inches on remaining M.H.'s
10 + 23	M.H.3	8 feet deep No steps Needs invert contouring
14 + 25	M.H.4	8 feet deep No steps Debris clogged due to inadequate invert
18 + 13	M.H.5	8½ feet deep No steps Needs invert work
20 + 55	M.H.6	5 feet deep S edge of LaSalle Street No steps Debris
24 + 59	M.H.7	4 feet deep No steps Debris Needs grout filler between ring & manhole
28 + 65	M.H.8	5½ feet deep No steps Needs invert work and grout seal between ring and manhole Debris
32 + 69	M.H.9	4 feet deep N of Westview Minimum grade at this point
	M.H.10	Unable to locate Believed to be North of Swan Street

In summary, observed system seems to be in good condition with exception of needed steps, invert work and grout seal between ring and manhole. Reported extraneous flows could originate behind shopping area as rain gutters discharge into porous rock garden surrounding MH's 7 and 8 where seal is needed between ring and manhole.

WAL:mh

SIGNED Wayne A. Latimer

Wayne A. Latimer
Video Technician

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Howard C. Wright, Jr. DATE July 20, 1976

DEPARTMENT Law

Re: Parkcrest Sewage Treatment Plant

As requested in your memo, I have reviewed the Missouri Clean Water Commission Policy which was recently adopted to determine if the Parkcrest Treatment Facility complies with these standards. One criteria of their policy is that the private sewer company can be allowed to continue to operate if it is properly operated and maintained. This does not seem to be the case with the Parkcrest Sewage Treatment Facility. Our inspections of this facility in recent weeks indicate that the facility is still not being operated properly. It is also possible that the treatment plant may be at times organically overloaded. This has not been determined, but some samples collected from the plant would seem to indicate that it is overloaded.

As I have noted in this memo, it seems that the Parkcrest Facility is and probably will not be operated properly. It should also be indicated that what seems to be the chlorination facility for disinfection of the effluent is not designed to operate as efficiently as is necessary. The type of chlorination facility that has been installed will not provide an effective means of disinfecting the effluent. It does appear that a grease trap has been installed on the sewer line from the restaurant which is tributary to this treatment facility.

If any further information is required, please let me know.

/ar

cc; Public Works File

SIGNED Robert R. Schaefer

Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

February 19, 1974

Mr. Howard G. Moore, P.E.
Howard G. Moore and Company
1320 S. Glenstone
Springfield, Missouri 65804

Re: Parkcrest Dental Clinic

Dear Mr. Moore:

This is to give you the City's approval for the concept of wastewater disposal for the Parkcrest Dental Clinic. Since there are presently no sewers in the area but sewers are expected in the near future, a holding tank with transfer to the City's Northwest Wastewater Treatment Plant is acceptable. I wish to emphasize again that the size of the holding facilities and the frequency of disposal should be such that septic conditions do not present a problem. Also, plans and specifications for the holding tank must be submitted to the City in conjunction with the plans for the dental clinic before the proper permits can be issued.

If you have any additional questions or comments, feel free to contact me.

Very truly yours,

Gregory M. Cole, Sanitary Engineer
Sanitary Services

GMC:cc

cc: Mr. Jim Burris, Regional Engineer, Missouri Clean Water Commission

bcc: Revolving File

HOWARD G. MOORE & COMPANY
CONSULTING ENGINEERS

1320 S. GLENSTONE
SPRINGFIELD, MISSOURI 65804
(417) 881-2110

P. O. BOX 1114
BRANSON, MISSOURI 65616
(417) 334-5080

February 6, 1974

Mr. Greg Cole
Sanitary Engineer
City Hall
Springfield, Missouri

Re: Parkcrest Dental Clinic

Dear Mr. Cole:

As you may recall, we discussed the subject project very briefly in your office on January 7, 1974.

We are enclosing copies of correspondence with the Missouri Clean Water Commission regarding the concept of wastewater disposal which is planned; a holding tank with transfer to the City of Springfield's treatment facilities. We propose to provide a one week storage capacity, with transfer designated by you.

We understood from our January 7th meeting that this plan would meet with your approval. May we please have confirmation of this?

If there are any questions, please call.

Sincerely,

Howard G. Moore

Howard G. Moore, P.E.

HGM/dc
Enclosures
cc: W. D. Johnson, A.I.A. / encl.

December 14, 1973

Missouri Clean Water Commission
1155 East Cherokee
Springfield, Missouri

Re: Parkcrest Dental Clinic
Fairview Ave. & LaSalle Street
Springfield, Greene County, Missouri

Attention: Mr. James A. Burris, Regional Engineer

Dear Mr. Burris:

We are working with a group of Dentists towards the development of the subject project. We estimate that this eight (8) Dentist facility will generate a hydraulic load of 3,000 gallons per day. Since sewers are not presently available in this area, and there is no suitable receiving stream for a treatment plant, we propose the use of a holding tank to collect the wastewater until it is transferred, periodically, by appropriate vehicle to the City of Springfield's sewerage system. The design of tank, frequency of transfer and location of discharge into the system will all be in accordance with the City's requirements.

We would like to have a letter of approval of this concept from your office. This letter is necessary to meet the present requirements of the Zoning and Planning Board.

If further information is required, please let us know.

Sincerely,

Howard G. Moore, P.E.

HGM/dc

MISSOURI CLEAN WATER COMMISSION
THE DEPARTMENT OF PUBLIC HEALTH AND WELFARE
1155 EAST CHEROKEE
SPRINGFIELD, MISSOURI 65807
TELEPHONE 417 863-4033

3.100 Greene County
Villa Park Heights

December 17, 1973

Mr. Howard G. Moore, P.E.
Howard G. Moore & Company
1320 S. Glenstone
Springfield, Missouri 65804

Dear Mr. Moore:

This is in reply to your letter dated December 14, 1973 proposing a holding tank and transfer of waste from the Parkcrest Dental Clinic to the City of Springfield's treatment facilities.

This concept for waste water disposal appears to be sound and is hereby approved.

Please be advised that this letter approves concept only, a detailed engineering report must be submitted before the ability of such a system to function hydraulically in accordance with requirements of the City of Springfield can be determined.

Yours truly,

James A Burris

James A. Burris, E.I.T.
Acting Regional Engineer
Missouri Clean Water Commission

JAB/cg

C.C. Central Office

March 26, 1976

Mr. Sam L. Wolfinbarger
Howard G. Moore Company, Inc.
2122 South Stewart
Springfield, MO 65804

Re: Elevations and location of manhole serving Parkcrest Village Shopping Center.

Dear Sam:

Attached to this letter is a sheet showing the location of the terminal manhole serving the Parkcrest Village Shopping Center. The elevation of the flow line into this manhole is 1250.99. The top of the manhole is at elevation 1259.24.

If you have any questions about the location and elevation of this manhole, please let me know.

Very truly yours,

Robert R. Schaefer

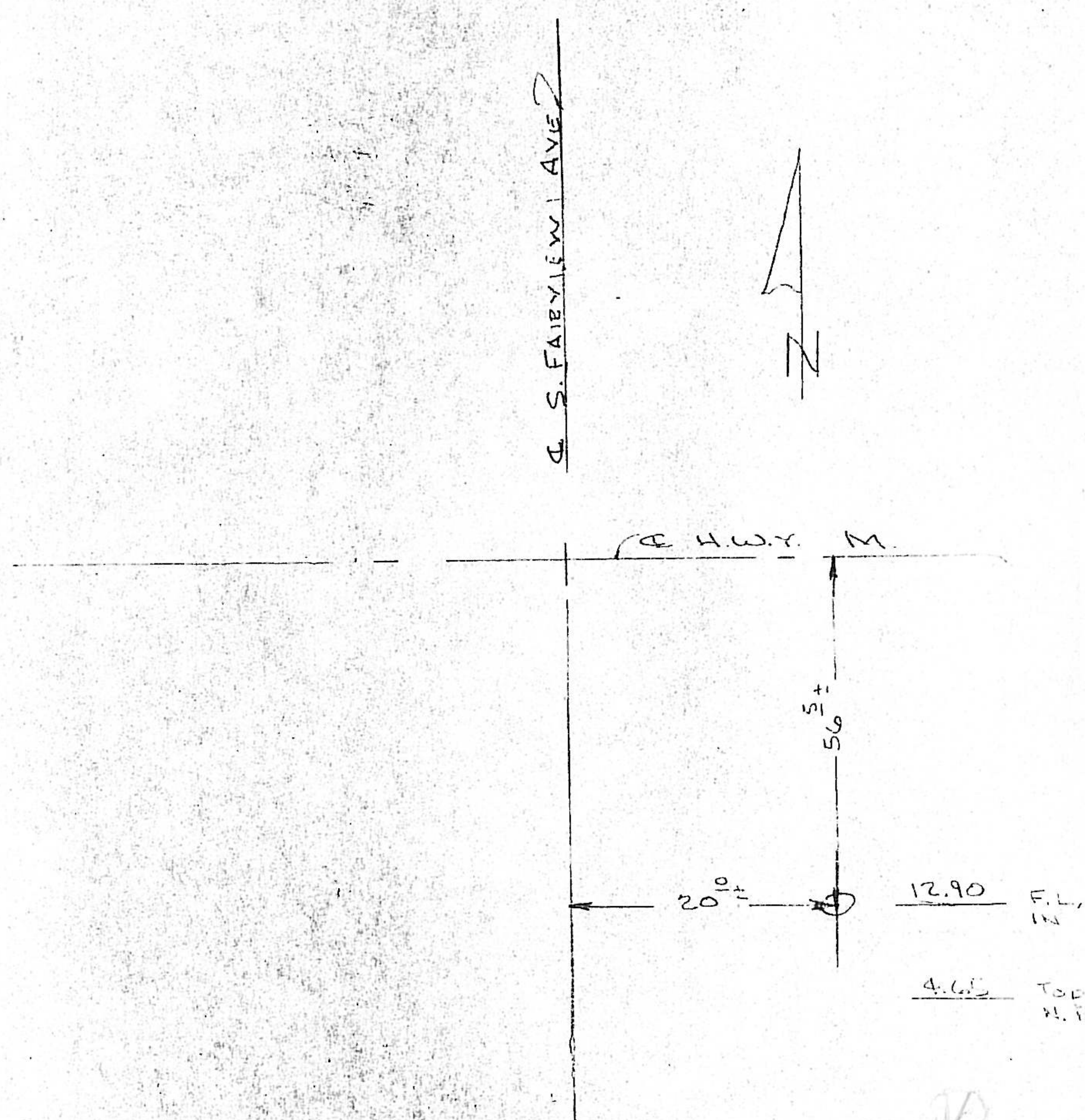
Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

RRS/dw

Attachments

cc: Public Works

	+	HI	−	Elev.	
					HWY M. & CAMPBELL
728 B.M.	6.08			1257.81	☐ Cut in Cent. Top Conc. Headwall of Culvert W. side Campbell - Approx. 200' N. of HWY M.



RPd

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF: Bob Schaefer

DATE: April 29, 1976

DEPARTMENT: Sanitary Services

It is my understanding that the Parkcrest Dental Clinic is now being served by a septic tank system which was approved by Sanitary Services. I have reviewed all of the files in the Planning Department pertaining to a request to construct the dental facility under a special use permit, which was later rezoned to an "O" District. It is my specific recollection that representations were made to City Councilmen and all concerned that under no circumstances would a septic tank system ever be approved for the dental clinic.

Apparently, after the property was rezoned, the dental clinic requested permission to install a septic tank system instead of the holding system which was previously required by the use permit. In reviewing the files, I note that the City did not reserve any right to require the holding tank system in the rezoning of the land to an "O" District. However, I am quite sure that representations were made to City Councilmen that under no circumstances would the City approve a septic tank system for the dental facility, particularly in light of statements from the Missouri Clean Water Commission concerning this facility. As a consequence, I am uncertain as to what action should be taken at this time, since the City has now approved a septic tank system for the doctors in this area.

In any event, I wanted your department to be aware of this problem since questions may be raised concerning why the dental facility was allowed to put in septic tanks when representations were made that a holding tank system would be required in the area. I suggest that we check to be sure that the septic tank system is functioning so that if the question arises we can assure those concerned that the system, as installed, is working properly.

/ar

cc: Don G. Busch
David G. Snider

doesn't appear to be surfacing. Insp. by Randy Lyman week of 4/26/76

PUBLIC WORKS APR 29 1976

PUBLIC WORKS DEPARTMENT CITY OF SPRINGFIELD		
DGB	R.E.H.	SEE ME
G.D.W.	W.J.M.	INFO. ONLY
D.E.S.	E.E.N.	FILE
J.H.B.	R.R.S. X	PLEASE HANDLE X

Bob – I have to agree at the hearings on this rezoning intent was certainly discussed along this line but obviously no legal requirement. We should do as recommended in last paragraph. DGB

SIGNED ~~Howard C. Wright, Jr.~~
City Attorney

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Bob Schaefer DATE April 29, 1976

DEPARTMENT Sanitary Services

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/ar

cc: Don G. Busch
David G. Snider

SIGNED Howard C. Wright, Jr.
City Attorney

ROUTING SLIP FROM Law

TO:

City Hall Offices	ATTENTION OF:
____ Building Regulations	
____ City Clerk	
____ City Manager	
____ Finance	
____ Accounting	
____ Licensing	
____ Purchasing	
____ Geologist	
____ Health	
____ Air Pollution	
____ Clinic	
____ Law	
____ Mayor	
____ Mgnt. Info Study	
____ Personnel	
____ Planning	
____ Public Works Adm.	
____ Engineering	
____ General Services	
✓ Sanitary Services	Bob Schaefer
____ Traffic	
____ Street Maint	
OTHER OFFICES	
____ Airport	
____ Art Museum	
____ Children's Home	
____ City Utilities	
____ Court	
____ Fire Dept.	
____ Library	
____ Manpower	
____ Parks	
____ Police Dept.	

July 7, 1975

Mr. David Schneider
Director of Public Works
830 Boonville
Springfield, Mo.

SUBJECT: Parkcrest Dental Group et al

Dear Mr. Schneider:

It was indeed a pleasure to visit with you, Mr. Burris and Mr. Schaffer yesterday to discuss some mutual areas of interest regarding the possibility of sewage facilities on South Campbell to service our various locations. To confirm our conversation, since we have areas of mutual interest, I agreed to pursue the program we discussed on the following basis.

1. You will reply to me within the next few days or as soon as feasible regarding the necessary procedures to establish a service to the South Campbell location as well as what is being done at this point that would be adjacent to any facilities we would pursue. You also are to send me the information relative to the area that could be served by a sewer district and pertinent data with relation to the number of residences and businesses that could be served so that these can be considered from a funding standpoint.

2. I would also appreciate receiving a copy of the map showing existing and contemplated services.

On receipt of your letter and information, I will proceed on the following basis.

1. Contact Mr. Smith relative to any cooperative efforts.

2. Contact the spokesman for the Parkcrest Village area relative to those areas and residences, businesses, etc. that would be served by such a district.

3. Pursue the necessary fundings for the project.

4. Work closely with you and your group relative to finalizing a program on a private basis with your assistance, utilizing a professional design engineer and contractor services.

Mr. David Schneider
Director of Public Works
830 Boonville
Springfield, Mo.

I will look forward to hearing from you so this matter can be pursued further.

Thank you again for your time and consideration.

Sincerely,

R. W. Bitter

R. W. Bitter
President
AgCon Co.

RWB/dlh

cc: Dr. Roger Bright
Mr. Burris
Mr. Schaffer

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Howard C. Wright, Jr. DATE November 10, 1976

DEPARTMENT Law

Re: Parkcrest Wastewater Treatment Plant

I feel that the City should contact the Missouri Clean Water Commission to give them our feelings about the operation of the Parkcrest Wastewater Treatment Plant. As you will remember, some time ago we had conversations with the Missouri Clean Water Commission, the Public Service Commission and the facility owner, Tom Smith, and his attorney regarding the construction and operation of this facility. As a result of this meeting, the Missouri Clean Water Commission required Mr. Smith to perform certain tests and to have an engineering report prepared on this facility. As a result of this engineering report, Mr. Smith did accomplish certain improvements to the plant, namely improving the drainage around the lagoons so that no surface water would wash into the lagoons, installation of a fence around the lagoon and also the installation of a chlorination facility of sorts for disinfection of the treatment plant effluent. A percolation test was also performed on the lagoon to determine if more than the maximum allowable effluent was percolating through the floor of the lagoon.

The percolation test conducted by an engineering firm indicated that 3/4 of an inch of liquid a day was percolating through the bottom of the lagoon. The maximum allowable is 1/4 of an inch per day. It is my feeling that instead of requiring Mr. Smith to drain the lagoons and seal the bottom with asphalt or some other material, it would seem more reasonable to require him to operate the plant properly until such time as the Ward Branch Trunk Sewer is available and at that time immediately abandon the use of this plant and connect to the trunk sewer. It would seem unreasonable to expect the owner, Mr. Smith, to construct a liner in the bottom of these lagoons which would be a great expense for what should be a very short length of time before the trunk sewer is available. It is my feeling that if the plant is operated properly, a small amount of percolation through the bottom of the lagoon should not endanger the ground water quality to any great degree.

My recommendations would be to (1) require the owner of this facility to hire a certified wastewater plant operator to provide daily operation and maintenance on the facility. This should insure that the plant is always operated in an efficient manner. (2) The chlorination facility which has been provided be replaced with a chlorinator which will inject a measured amount of chlorine into the effluent at all times. The present facility is not reliable in that a proper amount of chlorine residual cannot be always maintained. (3) That Mr. Smith would be required to connect to the Ward Branch Trunk Sewer as soon as such trunk sewer is available. I would think that this could be done by way of a

SIGNED

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF ~~Howard C. Wright, Jr.~~ DATE ~~November 10, 1976~~

DEPARTMENT Law

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joint trunk sewer connecting to the Ward Branch Trunk Sewer, the cost of which would be tax billed against all benefitting properties.

In order that the Missouri Clean Water Commission is aware of our feelings in this regard, I feel that we should send them our recommendations. If you agree with my thoughts, I would be happy to formulate a letter for your signature and send this letter to the Missouri Clean Water Commission. If you have any questions in this regard, please let me know.

RRS/kj

SIGNED Robert R. Schaefer

Robert R. Schaefer, P.E., Supt. of San. Services

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer DATE October 4, 1976

DEPARTMENT Sanitary Services

Re: Parkcrest Treatment Plant

The following observations were made during inspections on the dates indicated:

DATE	LAGOON LEVELS	DO ppm		S.S.		CHLORINE ppm		NOTES
		TANK	EFFL.	TANK	RETURN	TOTAL	FREE	
8-6	locked	0.4	0.2	900	610	0.1	0	Comminutor back on, clogged but cleaned out while we were there; no signs on fence; brown color w/foam.
8-13		0.3	0.3	650	400	0.2	0	Chlorinator- 1 drop every min & 50 sec; brown w/ lots of foam & filamentous solids.
8-20		0.2	0.3	650	530			Tank down ca. 12"; no effluent in troughs; water running out very murky w/ lots of solids; chlorine dripping into empty trough.
8-27		0.2	0.3	440	400	0.25	0.025	Green tint in tank, back up to normal level.
9-3		0.6	1.3	680	450	0.5	0.1	Brown foam in tank - half way across; clear effluent; 2 blowers, chlorine residual OK for 1st time.
9-10		0.4	0.8	improper setting				Brown foam in tank ½ across - very filamentous; effluent clear w/ few solids; 2 blowers.
10-1		0.6	0.4	550	370	0.7	0.05	Heavy foam; effluent w/ lots of solids. no signs on fence - DNR notified.

:mh

SIGNED Robert Corson

Robert Corson, Water Pollution Control
Inspector, Surveillance & Enforcement

3.100 Greene County
Parkcrest

August 24, 1976

Mr. Tom Smith
Route 4, Box 883
Springfield, Missouri 65802

Dear Mr. Smith:

This will confirm our conversation of
at your Parkcrest wastewater treatment

As indicated, we question the ability
to maintain a chlorine residual of 0.1
on a continuous basis. We, therefore,
satisfaction of this agency that effec
must require chlorination facilities t
for the Design of Sewage Works".

At weekly intervals beginning between
you are requested to collect and submi
samples should be collected where the
analyzed for fecal coliform bacteria a
and analyze samples periodically in ad
order to provide a more comprehensive

If you have any questions concerning th
know.

Yours truly,

Ed Sears
Environmental Specialist II
Springfield Regional Office
Department of Natural Resources

ES:cm

cc: Water Quality Program
Steve Townley, Water Quality Program
Bob Schaefer, City of Springfield
Bill Sankpill, Public Service Commission

To_____

Date_____ Time_____ By_____

While You Were Out

Mr._____

of_____

☐ Telephoned ☐ Called to See You
☐ Will Call Again ☐ Wants to See You
☐ Please Call Him ☐ Rush !

Phone_____

Message Steve Townley

314-751-3241

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Rob Hancik DATE June 30, 1976

DEPARTMENT Airport

Attached hereto you will find a letter from the Missouri Department of Natural Resources pertaining to the City's request for an exception from the NPDES permit for the Springfield Municipal Airport.

It would appear that the City is within the exception set forth in the proposed policy to determine if the Airport lagoon meets the standards set forth therein for an exception.

HCW/kj

Attachment

cc: Bob Schaefer

P.S. Bob, would also appreciate it if you would look at the Parkcrest sewer lagoon with respect to the standards set forth in the new policy to determine in what respects they do not comply or do comply with such standards. Also, advise Airport if you see any problems in complying with the standards.

SIGNED _____
Howard C. Wright, Jr., City Attorney

Missouri Clean Water Commission Policy Regarding Facilities Within 201 Planning Areas and Private Sewer Company Boundaries

This policy shall become effective only upon congressional, or other appropriate legal process permitting extensions of time beyond the 1977 deadlines presently stated in Title III of the Federal Water Pollution Control Act Amendments of 1972.

To provide judicious expenditure of public and private funds for wastewater collection and treatment, the Clean Water Commission hereby adopts the following policy:

1. All wastewater treatment plants located within established areawide planning areas, to include without limitations 201, private sewer company boundaries, 208, etc., shall be allowed to continue to operate until such time as sanitary sewers are available provided:
   a) they are properly operated and maintained,
   b) they are not hydraulically or organically overloaded, i.e., they maintain a BOD level of less than 60 mg/l and a SS level of less than 80 mg/l, and
   c) they are within an areawide planning boundary which has a plan approved by the agency in accordance with applicable Clean Water Commission and Environmental Protection Agency regulations.

2. Existing NPDES permits may be modified to reflect reasonable deadlines for connection to such sewer systems with interim limitations established to protect water quality standards.

3. Owners of such facilities shall submit a notarized statement that they are going to connect to sewage collection systems within 90 days of their availability.

All sewage treatment works not included above shall be expected to meet reasonable compliance schedules and produce an effluent meeting the treatment standards established in the applicable NPDES permit(s).

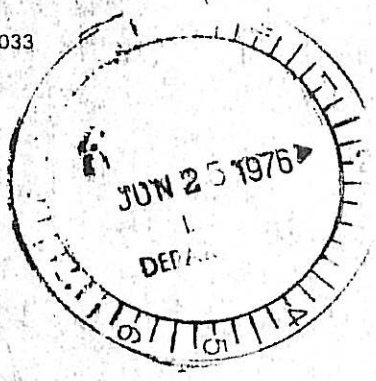
The above policy was adopted by the Missouri Clean Water Commission on May 27, 1976.

CHRISTOPHER S. BOND
GOVERNOR

JAMES L. WILSON
DIRECTOR

missouri department of natural resources

1155 E. Cherokee St.
Springfield Regional Office
Springfield, Missouri 65807
417-883-4033



1.300 Springfield
Municipal Airport

June 24, 1976

Mr. Howard C. Wright, Jr.
City Attorney
City Hall
830 Boonville
Springfield, Missouri 65802

Dear Mr. Wright:

This is in regard to the schedule of compliance contained in the NPDES Permit for the Springfield Municipal Airport.

Enclosed please find a copy of the Clean Water Commission's policy on facilities within the 201 Plan area. The terms of this policy statement will apply to the facilities at the airport and the permit will be modified in accordance with this statement. One problem which remains to be unsolved is the fecal coliform limitation as of this writing. It is undetermined whether or not disinfection will be required, since a losing stream is unsolved, until municipal sewers are available. Hopefully, I will have an answer to this question in the near future.

If you have any questions, please let me know.

Yours truly,

Ed Sears
Environmental Specialist II
Springfield Regional Office
Department of Natural Resources

ES:cm

cc: Water Quality Program

encl.

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer DATE August 3, 1976

DEPARTMENT Sanitary Services

Re: Parkcrest Treatment Plant

The following observations were made during inspections on the dates indicated:

DATE	LAGGON LEVELS I	II	III	DO ppm tank	effl.	S.S. tank	return	CHLORINEppm total	free	NOTES
6/3	18 "	28 "	27 "	0	0	870	890	-	-	Green color in both tanks; fairly strong odor; grease floating in #I Lagoon; comminutor stopped up; lime in #I; 2 blowers on.
6/11	18 3/4"	26½"	24½"	0	0	880	970			
6/18	18½"	25½"	22 3/4	0	0	280	400	-	-	2 blowers in; green color throughout; Cl_2 added - a tub filled with liquid which drips via tube into final clarifier - 42 drops/min.; return pump full on.
6/25	18½"	ruler gone	27¼"	0	0	350	500	-	-	II discharging over SE corner of dike; 2 blowers on; green color; comminutor clogged; 10 drops/min. Cl_2; return full on.
7/2	19 "	-	26 3/4"	0.3	0.2	570	610	-	-	II discharging SE corner; 2 blowers on; green color.
7/9	19½"	-	27½"	0.25	0.3	360	580	0.25	0	II discharging SE corner; 2 blowers on; brown color inttank; final clearing up - not bad; return not "charging" so badly.
7/16	18½"	-	28½"	0.3	0.1+	550	550	-	-	II repaired - no longer discharging; fence started - corner posts in; 4 dead bluegill in II.
7/23	18½"	-	28¼"	0.1	0.3	730	820	1.3	0.7-0.8	2 blowers on; comminutor gone; fence up - no gate - no signs; brownish-green; strong odor; effluent very cloudy, had to be diluted to read Cl_2 - stunk!
7/30	locked			0.2	0.1	640	560	0.1	0.05	No comminutor; fence completed w/gate but no signs; level in II & III near top; effluent fairly clear but w/lots of solids.

SIGNED Robert Corson

Robert Corson, Water Pollution Control Inspector III, Surveillance & Enforcement

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF: Jerry King

DEPARTMENT: Building Regulations

DATE: June 3, 1976

Pursuant to our phone conversation, please be informed that the Missouri Clean Water Commission has entered an order authorizing the ice cream shop located at Park Crest Shopping Center to hook into the sewer lagoon operated by Villa Park Heights Water Company and Tom Smith. While this office does not agree with the order of the Clean Water Commission in light of the order, there would appear to be no other alternative but to permit the ice cream shop to hook into the sewer lagoon at this time. Therefore, you are authorized to issue City permits for plumbing since the Clean Water Commission has determined that the sewer facility is adequate for the facility which is proposing to hook into the sewer lagoon.

/ar

SIGNED: Howard C. Wright, Jr., City Attorney

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer, P.E. DATE June 7, 1976

DEPARTMENT Sanitary Services

Re: Tom Smith's Treatment Plant
June 4, 1976
3:00 P.M.

Results of inspection of Treatment facilities are as follows:

1. Color in both aereation Tank and final Tank was light green.
2. Heavy amount of solids floating in chlorine chamber.
3. Amount of D.O. in aereation tank was 0 ppm.
4. Amount of D.O. in chlorine chamber was 0 ppm.
5. Settleable solids in aereation tank - 870.
6. Settleable solids from return - 890.
7. Two blowers were operating at the time of inspection.
8. Lagoon was not discharging at the time of inspection.

BC:mh

SIGNED Bob Corson

Bob Corson, Water Pollution Control
Inspector III, Surveillance & Enforcement

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Howard Wright DATE June 9, 1976

DEPARTMENT Law

Re: Parkcrest Treatment Plant

Personnel of the Division of Sanitary Services inspected Parkcrest Treatment Plant on June 4, 1976, and found the following deficiencies:

1. The dissolved oxygen in the aeration tank was zero; whereas it should have been between 1.0 and 2.0.

2. Both blowers were operating at the time of the inspection, but the dissolved oxygen was still zero.

3. The settleable solids in the aeration tank indicated that solids need to be wasted from the treatment plant. This could be done by a septic tank company pumping the solids into a tank truck and taking them to the North Plant.

4. A large amount of solids were floating in the chlorine chamber.

5. The lagoon was not discharging at the time of the inspection which indicated that the amount of flow going into the lagoons was percolating through the bottom of the lagoon or evaporating into the atmosphere.

This inspection indicated that there are still operational problems with the plant, and I would expect complaints from nearby homeowners concerning odors in the area. We will continue to inspect this plant on a weekly basis and let you know the results of these inspections.

RRS/rw

cc: Public Works file

SIGNED Robert S Schaefer
Robert Schaefer; Supt. of San. Services

April 24, 1976

John Nixon
Regional Engineer
Missouri Clean Water Commission
1155 East Cherokee
Springfield, Missouri 65807

Re: Parkcrest Subdivision Waste Water Treatment Facility

Dear Mr. Nixon:

I have reviewed the Engineering Report on the subject, Treatment Facility, submitted by Wright and Associates, Consulting Engineers, and wish to make a number of comments.

The City has passed a bond issue which is for the purpose of supplying trunk sewers to outlying areas of Springfield. The Ward Branch Trunk Sewer which will serve the Parkcrest area is projected to be constructed within the next three years. It would seem feasible that a branch sewer to serve the Parkcrest area could be constructed at the same time, thereby providing sewer service for the Parkcrest Shopping Center area within three or four years. Because of this short amount of time, it would seem reasonable that some temporary solutions to the waste water treatment problems for the Parkcrest area should be considered. The report indicates that some alternative measures should be decreasing of the loading and chlorination of the effluent. I am in agreement with this but feel that all the lagoons, should be sealed to prevent any percolation through the bottom. I feel that this is a temporary solution that could be considered by your agency.

The City is very interested in solving this problem but is not interested in assuming any liability of operating this treatment facility. We will indicate to the Public Service Commission that we will not agree to take over operation, of the Parkcrest Waste Water Treatment Facility.

If, however, the owner of the treatment facility and development will put in a lift station at his cost, the City will consider taking over

Date	raw Bod	raw P.H.	raw S.S.	ML Settable Solids	Return Settable Solids	SVI Return	SVI ML Tank	Plant effluent Bod	Plant effluent P.H.	Plant effluent S.S.	Lagoon levels I	II	III	Comments
10/24	158	7.58	73	none				208	7.62	132				D.O. in ML Tank .5 ppm only blower going, green color
10/25	550	6.86	553											Morning ML D.O. - .5 Told to try Two Blowers - afternoon ML Tank 4.1 D.O.
10/28														Gate locked - large amount of foam spray not working
10/29														Gate locked - large amount of foam spray not working
10/30				none	1%									eff D.O. - .2, D.O. 3.1 in ML Tank reduce amount of return Two Blower going
10/31														gate locked 9:00 A.M. Brown color in ML high foam both blowers final clarifier uncovered
11/5	≥ 1440	6.41	1230	< 2%	none			165	7.69	40				Lagoon Bod, 22 - SS 16 - PH, 8.19 SS in aeration 310, return SS 180 lagoon DO: 3.1
11/6	1000	7.34	700	72%	72%			130	7.42	92	11½"	14¾" discharging	21½"	ML Tank D.O. - 6.0, lagoon D.O. - 9.6 lagoon Bod 32, SS - 56, PH - 8.73
11/7	375	8.51	184								11½"	14½"	21"	lagoon eff Bod 26, SS - 54, ML Tank D.O. 4.8 lagoon D.O. 10.2
11/8	245	7.64	60								11"	14½"	21"	lagoon eff Bod 57, SS - 102, PH - 8.72 ML Tank D.O. 7.7 lagoon D.O. - 14.0
11/12	419		188								12⅜"	discharging 14½"	21½"	lagoon eff Bod 30, SS - 180, PH 9.03
11/13	325	7.69	276								12"	discharging 14¼"	21"	lagoon eff Bod 30, SS - 72, PH 9.12
11/14	150	6.85	940								12"	14" no discharge	20¾"	

Date	Raw Bod	Raw P.H.	Raw S.S.	ML Settable Solids	Return Settable Solids	SVI Return	SVI ML Tank	Plant effluent Bod	Plant effluent P.H.	Plant effluent S.S.	Lagoon levels I	Lagoon levels II	Lagoon levels III	Comments
11/15	810	7.36	830											
11/18	320	8.21	320											
11/19	260	7.25	112											
11/21	480	7.76	168								12 1/8"	13 1/8"	19"	
11/22	343	7.79	340								12 1/4"	12 3/4"	18 2/8"	
11/26	350	7.31	172								12 3/4"	12 1/2"	17 3/4"	after pump down
11/27	395	7.15	208								12"	12 1/2"	17 1/2"	
12/2	433	7.59	108	10							12"	11 3/4"	17"	
12/3	506	7.53	384								12"	11 3/4"	19"	
12/4	560	7.38	495	20	33		77	19	7.54	52	12"	11 1/2"	16 3/4"	ML. SS = 2610
12/5	560	7.89	280	23	17	101	83	16	7.70	40	12"	11 1/4"	16 1/2"	ML. SS = 2970 Return SS = 1680 ML. D.O. = 4.6
12/10	598	7.65	340	26	28	90	100	29	—	38				ML SS = 2600 ML. DO. = 6.0 Return SS = 3120

Date	Raw Bod	Raw P.H.	Raw S.S.	ML Settleable Solids	Return Settleable Solids	SVI Return	SVI M. Tank	Plant effluent Bod	Plant effluent P.H.	Plant effluent S.S	Lagoon levels			Comments
12/11	760	6.92	724	36	37	121	119	37	7.60	74	12"	12½"	16"	ML SS = 3030 one Blower Return SS = 3050 Rain ML. D.O. = .6
12/16	276	7.81	224	39	47	107	125	14	7.60	26	12"	10¾"	15¼"	ML SS = 3130 Two Blowers Return SS = 4410 ML. D.O. = 2.7
12/17	290	7.97	168	39	26	98	121	13	7.64	26				ML SS = 3230 Return = 2640
12/24	166	7.10	320	73	98	144	178	7	7.50	30	12"	8¼"	13½"	ML SS = 4100 ML. D.O. = 3.0 Return = 6780
1/2/75		7.13	440						7.48	48	adjusted stake 12½"	8½"	13"	ML. D.O. = 2.8
1/10/75	320	7.00	308					10	7.54	18	reset stake 13"	7"	12"	ML. D.O. = 1.4 rain 1" final D.O. = 1.3
1/20/75	483	8.13	356	55	95			10	7.42	14	13"	below Stake	10"	
1/27/75	245	7.49	180	40	85			38	7.55	54	13"	no Stake	below Stake	no flow from I to II
2/4/75				91	96						14"	reset stake 9½	no Stake	one Blower ML. D.O. = .6
2/12/75				49	37						13¾	no Stake	no Stake	ML. D.O. = .7 final D.O. = .7

BOD - 7 samples
average 365 mg/l
High 810 "
Low 150 "

SS - 10 samples
average 342 mg/l
High 940 "
Low 60 "

pH - 9 samples
average 7.63
high 8.21
low 6.85

LAGOON EFFLUENT

BOD - 4 samples
average 43 mg/l
high 57 "
low 26 "

SS - 4 samples
average 102 mg/l
high 180 mg/l
low 54 mg/l

pH - 3 samples
average 9.02
high 9.12
low 8.92

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/25/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE: PARKCREST PACKAGE PLANT (RAW)

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 553 mg/l Date:

✓ BOD_5 550 mg/l Date:

COD mg/l Date:

✓ pH 6.86 Date:

NH_3-N mg/l Date:

PO_4 ORTHO mg/l Date:

CARBON C_T C_I C_O Date:

TOXICITY Date:

HEAVY METALS(SPECIFY): Date:

OTHER(SPECIFY): Date:

REPORT OUR: Date: 11/1/74

By: J. Adams

LABORATORY ANALYSES 1974

Tom Smith Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)		
NOV 5	PLANT INF.	≥1440	1230	6.41								
	PLANT EFF.	165	40	7.69								
	LAGOON EFF.	22	16	8.19								
	AERATION		310									
	RETURN		180									
NOV 6	PLANT INF.	1000	700	7.34								
	PLANT EFF.	130	92	7.42								
	LAGOON EFF.	32	56	8.73								
	AERATION		660									
	RETURN		520									
NOV 7	PLANT INF.		184	8.51								
	LAGOON EFF.		54	—								
NOV 8	PLANT INF.		60	7.64								
	LAGOON EFF.		102	8.92								

@250 - 30 #/day @467 = 56 #/day

LABORATORY ANALYSES November 1974

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)		
11/7	Influent	375	184	8.51								
	Lag Eff	26	54	–								
11/8	Influent	245	60	7.64								
	Lag Eff	57	102	8.92								
11/12	Influent	419	188	–								
	Lag Eff	30	180	9.03								
11/13	Influent	325	276	7.69								
	Lag Eff	30	72	9.12								
11/14	Influent	150	940	6.85								
11/15	Influent	810	830	7.36								
11/18	Influent	220	370	8.21								
11/19	"	260	112	7.25								
11/21	"	480	168	7.76								
11/22	"	363	340	7.79								
11/26	"	350	172	7.31								
11/27	"	395	208	7.15								
12/2	"	433	108	7.59								
3	"	506	384	7.53								
4	"	560	495	7.58								
"	Final	19	52	7.54								
"	M.L. Tank	8	2610		SVI = [illegible]			Settleable Solids = 20				
12/5	Influent	560	280	7.89								
"	Final	16	40	7.72								
	ML Tank		2770		SVI = 83			Settleable Solids = 23				
	Return		1680		SVI = 101			Settleable Solids = 17				

LABORATORY ANALYSES — December 19 74

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	Attleable	
12/10	Influent	598	340	7.65								
	Effluent	29	38	–								
	ML		2600		SVI = 100						26	
	Return		3120		SVI =	90					28	
12/11	Influent	760	724	6.92								
	Effluent	37	74	7.60								
	ML		3030		SVI =	119					36	
	Return		3050		SVI =	121					37	
12/16	Influent	276	224	7.81								
	Effluent	14	26	7.60								
	ML		3130		SVI =	125				J. Adams	39	
	Return		4410		SVI =	107					47	
12/17	Inf.	290	168	7.77								
	Eff.	13	26	7.60								
	ML		3330		SVI	= 121					39	
	Return		3640		SVI	= 98					26	

Attn: Harry Criswell

LABORATORY ANALYSES

Jan 22 19 75

TSTP

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	settleables	
12/24/74	raw	166	320	7.10								
	effluent	7	30	7.50								
	ML		4100	SVI=		178					73	
	return		6780	SVI=		144					98	
1/2/75	raw		440	7.13								
	effluent		48	7.48								
1/10/75	raw	320	308	7.00								
	effluent	10	18	7.54								
1/20/75	raw	pending	356	8.13								
	effluent	pending	14	7.42								
										J. Adams		

Attn: Harry Criswell

LABORATORY ANALYSES

February 3 19 75

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)		
1/20	TSTP Raw	483	356	8.13								
1/20	TSTP Final	10	14	7.42								
1/27	TSTP Raw	245	180	7.49								
1/27	TSTP Final	38	54	7.55								
								J. Adams				

Harry

LABORATORY ANALYSES

_____ 19___

TS Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)		
12/24/74	Influent	166	330	7.10								
	Effluent	7	30	7.50								
	ML		4100		SVI=	178						
	Return		6780		SVI=	144						
1/2/75	Influent		440	7.13								
	Effluent		48	7.48								
										J. Adams		

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/24/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE: PARKCREST PACKAGE TREATMENT PLANT (AERATION TANK)

CHECK ANALYSIS DESIRED:

_____ SUSPENDED SOLIDS _____ mg/l Date: _____

_____ BOD_5 _____ mg/l Date: _____

_____ COD _____ mg/l Date: _____

_____ pH _____ Date: _____

_____ NH_3-N _____ mg/l Date: _____

_____ PO_4 ORTHO _____ mg/l Date: _____

_____ CARBON C_T _____ C_I _____ C_O _____ Date: _____

_____ TOXICITY _____ Date: _____

_____ HEAVY METALS(SPECIFY): _____

_____ Date: _____

V OTHER(SPECIFY): SUSPENDED SOLIDS - 180 PPM

SETTLEABLE SOLIDS - 0 Date: _____

REPORT OUR: Date: 10/30/74

By: J. Adams

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/24/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE:
PARKCREST PACKAGE PLANT (RAW)

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 73 mg/l Date:

✓ BOD_5 158 mg/l Date:

COD mg/l Date:

✓ pH 7.58 Date:

NH_3-N mg/l Date:

PO_4 ORTHO mg/l Date:

CARBON C_T C_I C_O Date:

TOXICITY Date:

HEAVY METALS(SPECIFY):

Date:

OTHER(SPECIFY):

Date:

REPORT OUR: Date: 10/30/74

By: J. Adams

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/24/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE: PARKCREST PACKAGE PLANT (FINAL)

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 132 mg/l Date:

✓ BOD_5 208 mg/l Date:

____ COD ____ mg/l Date:

✓ pH 7.62 Date:

____ NH_3-N ____ mg/l Date:

____ PO_4 ORTHO ____ mg/l Date:

____ CARBON C_T ____ C_I ____ C_O ____ Date:

____ TOXICITY ____ Date:

____ HEAVY METALS(SPECIFY): ____

____ Date:

____ OTHER(SPECIFY): ____

____ Date:

REPORT OUR: Date: 10/30/74

By: J. Adams

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/24/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE: PARKCREST PACKAGE PLANT (RAW)

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 73 mg/l Date: _____

✓ BOD_5 158 mg/l Date: _____

_____ COD _____ mg/l Date: _____

✓ pH 7.58 Date: _____

_____ NH_3-N _____ mg/l Date: _____

_____ PO_4 ORTHO _____ mg/l Date: _____

_____ CARBON C_T _____ C_I _____ C_O _____ Date: _____

_____ TOXICITY _____ Date: _____

_____ HEAVY METALS(SPECIFY): _____

_____ Date: _____

_____ OTHER(SPECIFY): _____

_____ Date: _____

REPORT OUR: Date: 10/30/74

By: J. Adams

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/24/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE:
PARKCREST PACKAGE TREATMENT PLANT (AERATION TANK)

CHECK ANALYSIS DESIRED:

_____ SUSPENDED SOLIDS _____ mg/l Date: _____

_____ BOD_5 _____ mg/l Date: _____

_____ COD _____ mg/l Date: _____

_____ pH _____ Date: _____

_____ NH_3-N _____ mg/l Date: _____

_____ PO_4 ORTHO _____ mg/l Date: _____

_____ CARBON C_T _____ C_I _____ C_0 _____ Date: _____

_____ TOXICITY _____ Date: _____

_____ HEAVY METALS(SPECIFY): _____

_____ Date: _____

V OTHER(SPECIFY): SUSPENTED SOLIDS - 180 PPM

SETTLEABLE SOLIDS - 0 Date: _____

REPORT OUR: Date: 10/30/74

By: J. Adams

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 10/24/74

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE:
PARKCREST PACKAGE PLANT (FINAL)

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 132 mg/l Date:

✓ BOD_5 208 mg/l Date:

____ COD ____ mg/l Date:

✓ pH 7.62 Date:

____ NH_3-N ____ mg/l Date:

____ PO_4 ORTHO ____ mg/l Date:

____ CARBON C_T ____ C_I ____ C_0 ____ Date:

____ TOXICITY ____ Date:

____ HEAVY METALS(SPECIFY): ____

____ Date:

____ OTHER(SPECIFY): ____

____ Date:

REPORT OUR: Date: 10/30/74
By: J. Adams

INTER-OFFICE MEMORANDUM

ATTENTION OF Dave Snider DATE January 15, 1975

DEPARTMENT Public Works

RE: Parkcrest Wastewater Treatment Facility

A little more than two months ago a meeting with Tom Smith, owner of the subject facility was held. His attorney, the City Manager, City Attorney, Jim Burris, you and I attended this meeting. After some discussion about the merits and problems of the City taking over this plant, it was decided that we would advise Mr. Smith how to properly operate the plant and prepare a report in about 60 days. This report was to indicate if the City could operate the plant in compliance with the MCWC regulations.

After some initial difficulties the plant seems to be operating efficiently. From the samples we have collected, it seems that the plant is properly sized and designed. We are now achieving from 90% to 95% removals of BOD and 80% to 90% removals of SS.

Even though these removals are certainly a big improvement, I feel that the Missouri Clean Water Commission will require irrigation of the effluent to eliminate discharge into the lagoons.

Before I make any definite recommendation in the solution of this matter, I want to see the requirements of the NPDES Permit for this facility. I understand that the public notice for this permit will be distributed in the next week or so. After we know what the requirements and the schedule of compliance are, a definite recommendation can be formulated.

We are continuing to assist Mr. Smith in checking the plant and collecting and analyzing plant samples. I should mention that Mr. Smith has indicated to Jim Burris and others that we are operating the plant now.

RRS:sw

SIGNED
Robert R. Schaefer, P.E.
Superintendent of Sanitary Services

raw average BOD 21		SS 21
11-7	375	184
11-8	245	60
11-2	419	188
11-13	325	276
11-14	150	940
11-15	810	830
11-18	220	320
11-19	260	112
11-21	480	168
11-22	363	340
11-26	350	172
11-27	395	208
12-2	433	108
12-3	506	384
12-4	560	495
12-5	560	280
10-24	158	73
12-10	598	340
12-11	760	724
12-16	276	224
12-17	290	168

average
21 samp.
406 ppm

average
21 samp.
314 ppm

45 lbs/day
approx. 3300 cubic feet in air tank

Laboratory Analyses — November 1974

Tom Smith Treatment Plant

Date	Sample	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)		
11/7	Influent	375	184	8.51								
	Lag Eff	26	54	–								
11/8	Influent	245	60	7.64								
	Lag Eff	57	102	8.92								
11/12	Influent	419	188	–								
	Lag Eff	30	180	9.03								
11/13	Influent	325	276	7.69								
	Lag Eff	30	72	9.12								
11/14	Influent	150	940	6.85								
11/15	Influent	810	830	7.36								
11/18	Influent	220	370	8.21								
11/19	"	260	112	7.25								
11/21	"	480	168	7.76								
11/22	"	363	340	7.79								
11/26	"	350	172	7.31								
11/27	"	395	208	7.15								
12/2	"	433	108	7.59								
3	"	506	384	7.53								
4	"	560	495	7.38								
"	Final	19	52	7.54								
"	M.L. Tank	@	2110		SVI = 7			Settleable Solids = 20				
12/5	Influent	560	280	7.59								
"	Final	16	40	7.72								
	M.L. Tank		2770		SVI = 43			Settleable Solids = 23				
	Return		1680		SVI = 101			Settleable Solids = 17				

LABORATORY ANALYSES

December 19 74

Tom Smith Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)	Settleables	
12-10	Influent	598	340	7.65								
	Effluent	29	38	-								
	ML		2600		SVI = 100						26	
	Return		3120		SVI = 90						28	
12-11	Influent	760	724	6.92								
	Effluent	37	74	7.60								
	ML		3030		SVI = 119						36	
	Return		3050		SVI = 121						37	
12-16	Influent	276	224	7.81								
	Effluent	14	26	7.60								
	ML		3130		SVI = 125						39	
	Return		4410		SVI = 107						47	
12-17	Influent	290	168	7.77								
	Effluent	13	26	7.64								
	ML		3230		SVI = 121						39	
	Return		2640		SVI = 98						26	
										J. Adams		

LABORATORY ANALYSES _____ 19___

TS Treatment Plant

DATE	SAMPLE	BOD mg/l	SS mg/l	pH	COD mg/l	TOC mg/l	C_T mg/l	NH_3-N mg/l	o-PO_4 mg/l	Toxicity (Phenol Coefficient)		
12/24/74	Influent	166	320	7.10								
	Effluent	7	30	7.50								
	ML		4100		SVI=	178						
	Return		6780		SVI=	144						
1/2/75	Influent		440	7.13								
	Effluent		48	7.48								
										J. Adams		

CITY OF SPRINGFIELD
INTER-OFFICE MEMORANDUM

ATTENTION OF Robert R. Schaefer DATE July 22, 1976

DEPARTMENT Sanitary Services

Re: Tom Smith's Parkcrest subdivision sewer

Approximately 3269 feet of 8 inch presumably all VCP by reason of observed factory molded polyurethane gaskets. All manholes 4 feet diameter precast concrete construction. Grout seal between manhole sections. No visible signs of infiltration/inflow.

4 + 28	M.H.1	First located manhole above treatment facility Above grade 2½ feet approximately 7 feet deep Good steps and invert Lid 25 1/8 inches diameter
6 + 28	M.H.2	First manhole south of Hwy M 8½ feet deet No steps Invert needs conturing to provide adequate channel Lids 23½ inches on remaining M.H.'s
10 + 23	M.H.3	8 feet deep No steps Needs invert conturing
14 + 25	M.H.4	8 feet deep No steps Debris clogged due to inadequate invert
18 + 13	M.H.5	8½ feet deep No steps Needs invert work
20 + 55	M.H.6	5 feet deep S edge of LaSalle Street No steps Debris
24 + 59	M.H.7	4 feet deep No steps Debris Needs grout filler between ring & manhole
28 + 65	M.H.8	5½ feet deep No steps Needs invert work and grout seal between ring and manhole Debris
32 + 69	M.H.9	4 feet deep N of Westview Minimum grade at this point
	M.H.10	Unable to locate Believed to be North of Swan Street

In summary, observed system seems to be in good condition with exception of needed steps, invert work and grout seal between ring and manhole. Reported extraneous flows could originate behind shopping area as rain gutters discharge into porous rock garden surrounding MH's 7 and 8 where seal is needed between ring and manhole.

WAL:mh

SIGNED

Wayne A. Latimer
Video Technician

PARKCREST TREATMENT FACILITY - 1976

DATE	LAGOON LEVELS I	II	III	D.O. T	D.O. E	S.S. T	S.S. A	CHLORINE T	CHLORINE F	NOTES
6/3	18"	28"	27"	0 ppm	0 ppm	870	890	—	—	GREEN COLOR IN BOTH TANKS; FAIRLY STRONG ODOR; GREASE FLOATING IN #1 LAGOON; COMMINUTOR STOPPED UP; LIME IN #1 & 2 BLOWERS ON
6/11	18¾	26½	24½	0	0	880	970	—	—	SAME AS 6/3
6/18	18½	25½	22¾	0	0	280	400	—	—	2 BLOWERS ON; GREEN COLOR THROUGHOUT; Cl_2 ADDED - A TUB FILLED WITH LIQUID WHICH DRIPS VIA TUBE INTO FINAL CLARIFIER - 42 DROPS/MIN.; RETURN PUMP FULL ON.
6/25	18½	RUBBER GONE	27¼	0	0	350	500	—	—	II DISCHARGING OVER SE CORNER OF DIKE · 2 BLOWERS ON; GREEN COLOR; COMMINUTOR CLOGGED; 10 DROPS/MIN. Cl_2; RETURN FULL ON.
7/2	19	—	26¾	0.3	0.2	570	610	—	—	II DISCHARGING SE CORNER; 2 BLOWERS; GREEN COLOR
7/9	19½	—	27½	0.25	0.3	360	580	0.25	0	II DISCHARGING SE CORNER; 2 BLOWERS; BROWN COLOR IN TANK; FINAL CLEARING UP - NOT BAD; RETURN NOT CHANGING SO BADLY.
7/16	18½	—	28½	0.3	0.1±	550	550	—	—	II REPAIRED - NO LONGER DISCHARGING; FENCE STARTED - CORNER POSTS IN; 4 DEAD BLUEGILL IN III
7/23	18½	—	28¼	0.1	0.3	730	820	1.3	0.7-0.8	2 BLOWERS ON; COMMINUTOR GONE; FENCE UP - NO GATE - NO SIGNS; BROWNISH-GREEN; STRONG ODOR; EFFLUENT VERY CLOUDY - HAD TO BE DILUTED TO READ Cl_2 - STUNK!
7/30	DISCONTINUED - GATE LOCKED			0.2	0.1	640	560	0.1	0.05	NO COMMINUTOR; FENCE COMPLETED W/GATE BUT NO SIGNS; LEVEL IN II; III NEAR TOP; EFFLUENT FAIRLY CLEAR BUT W/LOTS OF SOLIDS.
8/6	———			0.4	0.2	900	610	0.1	0	COMMINUTOR BACK ON, CLOGGED BUT CLEANED OUT WHILE WE WERE THERE; NO SIGNS ON FENCE; BROWN COLOR W/FOAM.
8/13	———			0.3	0.3	650	400	0.2	0	CHLORINATOR - 1 DROP EVERY MIN & 50 SEC.; BROWN W/LOTS OF FOAM & FILAMENTOUS SOLIDS
8/20	———			0.2	0.3	650	530	———		TANK DOWN CA. 12"; NO EFFLUENT IN TROUGHS; WATER RUNNING OUT VERY MURKY W/LOTS OF SOLIDS; CHLORINE DRIPPING INTO EMPTY TROUGH.
8/27	———			0.2	0.3	440	400	0.25	0.025	GREEN TINT IN TANK, BACK UP TO NORMAL LEVEL
9/3	———			0.6	1.3	680	450	0.5	0.1	BROWN FOAM IN TANK - HALF WAY ACROSS; CLEAR EFFLUENT; 2 BLOWERS; CHLORINE RESIDUAL OK FOR 1ST TIME
9/10	———			0.4	0.8	IMPROPER SETTLING		—	—	HEAVY FOAM; EFFLUENT W/LOTS OF SOLIDS; NO SIGNS - DNR NOTIFIED
10/1	———			0.6	0.4	550	370	0.7	0.05	BROWN FOAM IN TANK ½ ACROSS; VERY FILAMENTOUS; EFFLUENT CLEAR W/FEW SOLIDS.
10/8	———			0.9	0.4	UNREADABLE	550	0	0	Cl_2 24 DROPS/MIN
10/15	———			1.0	0.4	—	600	—	0	EXCESSIVE FOAM IN TANK
10/22	———			1.0	1.1	—	—	0.3	0.1	

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 6/2/76

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE: Parkcrest Treatment Plant – Influent

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 210 mg/l Date:

✓ BOD_5 330 mg/l Date:

COD mg/l Date:

✓ pH 7.2 Date:

NH_3-N mg/l Date:

PO_4 ORTHO mg/l Date:

CARBON C_T C_I C_O Date:

TOXICITY Date:

HEAVY METALS(SPECIFY):

Date:

OTHER(SPECIFY):

Date:

REPORT OUR: Date: 6/8/76

By: J Adams

CITY OF SPRINGFIELD, MISSOURI
SOUTHWEST WASTEWATER TREATMENT PLANT
LABORATORY ANALYSIS REQUEST

DATE IN: 6/2/76

SAMPLE DESCRIPTION AND PHYSICAL APPEARANCE:

Parkcrest Treatment Plant — Effluent

CHECK ANALYSIS DESIRED:

✓ SUSPENDED SOLIDS 280 mg/l Date:

✓ BOD_5 80 mg/l Date:

COD mg/l Date:

✓ pH 7.3 Date:

NH_3-N mg/l Date:

PO_4 ORTHO mg/l Date:

CARBON C_T C_I C_O Date:

TOXICITY Date:

HEAVY METALS(SPECIFY):

Date:

OTHER(SPECIFY):

Date:

REPORT OUR: Date: 6/18/76

By: J. Adams

6-3-71 TSTP — Start program

3,000 D M

D.O.- Tank - 0

Eff - 0

S.S. return — #890

S.S. Tank — 870

31,358

1st — 18"

2nd — 28"

3rd — 27"

~~two~~ Blower ✓

Lagoon not discharging

6-11-76 10:45

TSTP

green color in both Tank

odor present — fairly strong

D.O. Tank — 0 ppm

S.S Tank — 880

D.O. Chlonde — 0 ppm.

SS. Return —— 970

I — 18 3/4 "

II — 26 1/2 "

III — 24 1/2 "

Grease floating in I lagoon

communitor ~~clogg~~ Stopped up

lime on first lagoon

2 blowers

{ License # 265-097 MO SANITARY SERVICE Co. }

6-18-76

I - 18½
II - 25½
III 22¾

2 blowers
Green color throughout plant
0 ppm - O_2 on tank
0 ppm - O_2 in final
Cl_2 added - a tab ¾ inch dips (filled with liquid) via tube into final clarifier - rate - 42 dips per minute
55 - return - 40 - 600
55 - tank - 28 - 720
return pump full on

6-25-76

I — 18½"

II — no ~~flats~~ — discharging over S.E. corner of barn

III — 27¼"

2 blowers
green color
Communtor clogg up
10 drops of O_2 per minute

O_2 in Tank — 0
O_2 in final — 0

55 - return — 500
55 - tanks — 350
return fallon —

7-2-96

I — 19"

II — no stick - overflowing

III — 26 3/4"

2 blowers

green colour

O_2 in tank — .3

O_2 in pure — .2

55 return — 610

55 - tank — 570

TSTP July 9, 1976

I - 1½

II — discharging over berm

III - 2½

no free Cl_2

Total Cl_2 ⇒ .25 ppm

D.O. on Tank — .35 ppm

D.O. on final — .3 ppm

55 on Tank — 34

85 on Return — 58

2 Blower

Brown color in Tank

final clearing up — not bad

Ultrum not "charging" so badly

TSTP

16 July 72

Level of 1st lagoon — 18½"

Level of 3rd lagoon — 28½"

4 dead bluegill floating in 2nd lagoon

Southeast & east dikes of 2nd lagoon have been repaired & the lagoon is no longer overflowing

S.S. TANK — 550

S.S. RETURN — 550

D.O. TANK — 0.3 ppm

D.O. EFFLUENT — 0.0-0.1 ppm

TOTAL CHLORINE -

FREE CHLORINE -

TSTP - 23 July 76

D.O. tank — 0.1
D.O. effluent - 0.3
S.S. tank — 730
S.S. Return — 820
Free Cl_2 - 0.35-0.4 x 2 = 0.7-0.8
Total Cl_2 - 0.65 x 2 = 1.3

I level — ca. 18½"
III level - 28¼"

2 blowers

Comminutor missing

fence up - no gate; no signs

brownish-green color
effluent very cloudy - diluted x 2 to read Cl_2

TSTP July 30 1996

No comments

D.O. - Tank — .2 ppm

D.O. final - .1 ppm

Cl_2 → Total .1 ppm, Residual .05 ppm

SS return → 560

SS Tank → 670

fence completed with gate no signs

on fence reworked berm no discharge

however level in 2+3 is near the top

plant discharge cleaner than usual

1/3 of solids in effluent

TSTD 6 Aug 96

DOT - .4

DOE - .2

SST - 900.

SSR - 610

TC - 0.1

FC - 0

Comm - BACK on — clogged up

NO SIGNS

Brown clay w/foam

TSP - 13 Aug 76 - 9:30 am

D.O. TANK — .3 ppm
D.O. EFFLUENT - .3 ppm
S.S. TANK - 650
S.S. RETURN - 100
TOTAL CHLORINE — .2 ppm
FREE CHLORINE - .0 ppm

1 drop every 1 min. 50 sec.

TSTP

20 AUG 76

D.O. TANK — 0.2
D.O. EFFLUENT — 0.3
S.S. TANK — 650
S.S. RETURN — 530
T. Chlorine — N.A.
F. Chlorine — N.D.

Chlorine is dripping into empty trough
Tank is down about 12"
No effluent in troughs or over weirs
Not running out is very murky w/lots of solids
Appears to have been pumped

TSTP

Aug 27, 1976

2:30 P.M. slight green tint in O_2 tank

clear sunny

D.O. Tank - .2

D.O. final - .3

SS Tank - 440

SS return - 400

Cl_2 free - .025 ppm

Cl_2 total - .25 ppm

Sept 3-76

9:30

Cloudy

Free Cl_2 .10 ppm

Total Cl_2 - .5 ppm

D.O. Tank — 1.6 ppm

D.O. eff — 1.3 ppm

SS Tank — 680

SS. returns — 457

brown foam in tank - half across tank

cleaner eff -

2 blown

TSTP 9-10-76

3:30

Cl_2 Free — no

Cl_2 Total —

D.O. Tank — .4

D.O. Eff — .8

D.O. Return —

SS —> no accurate reading

SS Tank — sludge too filamentous ~~not~~ would not settle properly

brown foam in tank half across

eff clear with few solids

2 blowers

TSTP 3:30pm 10 of 76

DO$_T$ 0.6

DO$_E$ 0.4

SS$_T$ ~~37~~550

SS$_R$ 370

Cl$_{2\ FREE}$ 0.05

Cl$_{2\ TOTAL}$ 0.7

heavy foam
effluent w/ > solids

ISIP - 8 OCT 76
cloudy

DO_I - 0.9

DO_E - 0.4

SS_T - uncalculable

SS_R - 550

Cl_I - 0

Cl_F - 0

Chloride added @ 24 drops/min.

TSTP 15OCT 76

DO_I 1 ppm

DO_E .4 ppm

SS_I - did not settle

SS_R - 600

Cl_I ____

Cl_F - 0

10-22-76
2:15

TSTP

Cl_2 R — .1 ppm

Cl_2 T — .3 ppm

Sets R — no

Sets T — no

D.O. T — 1.0 ppm

D.O. Final — 1.1 ppm